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BULLETIN

OF THE

ERICAN INSTITUTE OF MINING ENGINEERS.

Number I.

(NOT INCLUDED IN ANNUAL VOLUME OF TRANSACTIONS.)

he Progress of Mineralogy in 1898.

ANALYTICAL CATALOGUE OF THE CONTRIBUTIONS TO THAT SCIENCE
PUBLISHED DURING THE YEAR.

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BY

S. HARBERT HAMILTON,
ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA,

AND

JAMES R. WITHROW,
PHILADELPHIA, PENNSYLVANIA.

NEW YORK CITY:
PUBLISHED BY THE INSTITUTE,
AT THE OFFICE OF THE SECRETARY.
1899.

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[BULLETIN OF THE AMERICAN INSTITUTE OF MINING ENGINEERS.]

The Progress of Mineralogy in 1898.*

BY S. HARBERT HAMILTON AND JAMES R. WITHROW, PHILADELPHIA, PA.

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I.

New Species, Etc.

Benedicks, H. (*Geol. För. Förh.*, xx., 308).

"Thalénite from Österby, Sweden." Monoclinic, $H_2Y_4Si_4O_{15}$— H. 6.5. Sp. gr. 4.227.

Brogger, W. C. (*Forh. Vid. Selsk. Christiania*, 1898, No. 7).

"Mossite and Skogbölite." Mossite is a black tetragonal, $FeNb_2O_6$, $FeTa_2O_6$, from Moss, Norway.

Brush, Chas. F. (*Science*, viii., 485).

"A new Gas." This supposedly new element, called Etherion, is most remarkable, and exists in the air, and is occluded by many substances, such as glass.

Gas.	Molecular Weight.	Density.	Relative Specific Heat.	Relative Molecular Velocity.	Relative Heat Cond'ctivity.
Etherion	? 0.0002	? 0.0001	6000. ?	100. ?	100.
Hydrogen	2.	1.	1.	1.	1.
CO	27.8	13.9	0.072	0.22	.33
CO_2	43.8	21.9	0.064	0.21	0.21

Crookes, Wm. (*Chem. News*, lxxviii., 221).

"On Eatherion." Prof. Crookes considers this supposed new element to be highly rarefied aqueous vapor.

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* Secretary's Note.—This valuable *catalogue raisonné* of the contributions to mineralogical literature published in 1898 has been included by title as one of the

Cesaro, G. (*Bul. Acad. Belg.*, xxix., 508, and xxxii., 536).

"Valleite." A mineral of the composition of amphibole orthorhombic like anthophyllite, but very closely related to l except optically. It occurs at Edwards, St. Lawrence Co., *New* and not New Jersey, as given in Bul. Soc. Min., xxi., p. 134.

Cohen, E. W. (*Ber. Ak. Berlin*, 1898, p. 428–429).

"The Meteoric Iron from Cincinnati, U. S. A."

—— (*Ber. Ak. Berlin*, 1898, p. 19–22).

"Meteoric Iron from Ballinoo, Western Australia." An oct dral iron; with nickel iron, 96.81 per cent.; schreibersite, 3.11 cent.; and troilite, 0.08 per cent.

—— (*Ann. Mus. Wien.*, xiii., p. 45–58).

"Meteoric Irons." Smithland, Kentucky, Fe, 82.83; Ni, 16 Co, 0.94; P, 0.09; S, 0.17; Cr, 0.06. Nickel iron, 99.00; rhab and schreibersite, 0.58; troilite, 0.27; daubréelite, 0.15; sp. 7.7115.

Botetourt, Va., an ataxite, Fe, 85.88; Ni, and Co, 18.23; sp 8.186, highest recorded.

Irons from Scriba, N. Y., Hemalga, Chili, Nauheim, Wetterau St. Augustine's Bay, Madagascar, are spurious.

Troilite is shown to be a good conductor of electricity.

Curie, P. & S. (*Chem. News*, lxxviii., p. 49; *Compt. Rend.*, cxxx

"Polonium: A New Radio-active Substance Contained in Pi blende." This may be a new metal. Its most marked propert that it has 400 times the radio-activity of uranium.

Crookes, Wm. (*Pres. Ad. Bri. Assoc.*, 1898).

"A new element, Monium, is announced. An atomic weigh 118 (R_2O_3) is suggested."

Darapsky, L. (*Zeit. Kryst. Min.*, xxix., p. 213).

"Planoferrite." A new orthorhombic (?) $Fe_2O_3.SO_3.15H_2O$ near Antopagasta, Chili. Also glauberite, blödite and saltpete

—— (*Jahrb. f. Min.*, i., p. 163).

"Kubeite" nov. sp. This new mineral comes from Atac where it occurs in red orthorhombic or monoclinic crystals o formula, $2(Fe_2O_3,2SO_3) + 3(MgO,SO_3) + 30H_2O$.

Eakle, A. S. (*Zeit. Kryst. Min.*, vol. xxx., p. 176).

—— (*Am. Jour. Sci.*, vi., p. 66).

"Erionite, a new Zeolite," near Stilbite, in composition wi

---

papers of the New York meeting, and will be distributed to members in pa form, but will not be included in the annual volume of *Transactions*, for th that the space it would require could not be given to it without excludi having more direct connection with professional practice. Of the au Hamilton is connected with the Philadelphia Academy of Natural Sci Mr. Withrow is a student at the University of Pennsylvania; and they de press their thanks for assistance rendered by Mr. S. W. Hartwell, of Phi formula $H_2Si_6Al_2CaK_2Na_2O_{17}5H_2O$. An orthorhombic crystallization is suggested. Occurs in the rhyolite of Durkee, Oregon, associated with opal; SiO_2, 95.56; H_2O, 4.14.

Frenzel, A. (*Min. Mitth.*, vol. xviii., p. 91).

"The San-Gregori Iron." Four men in a row can stand upon it with ease.

Hidden, W. E. and **Pratt, J. H.** (*Am. Jour. Sci.*, v., 294).

"On Rhodolite, a New Variety of Garnet." A gem mineral giving brilliant rose colorings by reflected light. In composition near pyrope; $2Mg_3Al_2(SiO_4)_3.Fe_3Al_2(SiO_4)_3$. Occurs in Macon Co., N. C., in rolled etched fragments with numerous other heavy minerals.

Hoffman, G. C. (*Am. Jour. Sci.*, vi., 274).

"Baddeckite, a New Variety of Muscovite." Analysis: SiO_2, 48.96; Al_2O_3, 13.85; Fe_2O_3, 25.82; CaO, 1.17; MgO, 2.65; K_2O, 3.47; Na_2O, 0.002; H_2O, 3.78. Occurs in clays at Baddeck, Nova Scotia.

Hussak, E. and **Prior, G. T.** (*Min. Mag.*, xii., p. 30).

"On Senaite, a New Mineral Belonging to the Ilmenite Group from Brazil." A rhombohedral, tetartohedral mineral with a possible composition $(FePb)O.2(TiMn)O_2$ from Minas Geraes, Brazil.

Khlaponin, A. (*Vh. Min. Ges.*, xxxv., 233).

"Meteorite from Toubil, Gov. Yeniseisk," Siberia. Fe, 95.183; Ni, 3.385; Co, 0.14; Ca, 0.205; Mg, 0.033; SiO_2, 0.075; Mn, 0.09; As, 0.019; Cl, 0.038; C, 0.12; O, 0.093. Rhabdite, 0.425 per cent., gave the formula Fe_3Ni_2P on analysis. Shows well-marked triangular Widmanstätten figures.

Klebs, R. (*Jahrb. f. Min.*, ii., p. 212).

"Cedarite, an Amber-like Resin." This hydrocarbon from Cedar Lake, Western Canada, is here named Cedarite; contains C, 78.15; H, 9.89; S, 0.31; O, 11.20; ash 0.45. Succinic acid is absent, but 86.8 per cent. of colophony is present. [This mineral has previously been called chemawinite. *Spencer.*]

Knight, W. C. (*Eng. Ming. Jour.*, lxv., 491).

"Bentonite." A clay formerly called taylorite is changed to bentonite. The material is not homogeneous, and has no claim to be called a good species.

Analyses vary, as:

SiO_2	Al_2O_3	
59.78—65.24	15.10—17.62	etc.

Lacroix, A. (*Compt. rend.*, cxxvi., p. 602).

"Ktypeite, a New Form of Calcium Carbonate." The pisolites of Carlsbad contain a mineral with optic axes of 50°, which explodes on heating.

N. (*Nature*, vol. lviii., p. 375).

"Fall of a Meteorite in Bosnia." An aerolite 55 x 35 x 28 *c. m.* fell August 1, 1897.

Penfield, S. L. and Foote, H. W. (*Am. Jour. Sci.*, v., 289).

"On Clinohedrite, a New Mineral from Franklin, N. J." A m olinic mineral belonging to the rare "*domatische klasse*" with no of symmetry, but with a plane of symmetry. Composition (Zn (CaOH)SiO_3. H., 55. Sp. gr., 3.33.

Pittmann, E. F. (*Rec. Geol. Sur., N. S. W.*, 1898, p. 203).

"Kalgoorlite, a New Mineral from Western Australia." Mas $HgAu_2Ag_6Te_6$.

Preston, H. L. (*Am. Jour. Sci.*, v., 269).

"San Angelo (Texas) Meteorite." A typical octahedral sid with Fe, 91.958; Ni, 7.86.

Ramsay, Wm. and Travers, M. W. (*Nature*, lviii., 127).

"On a New Constituent of Atmospheric Air." Krypton, K new elementary gas, of a density of 22.50 (?).

Samoiloff, J. (*Bul. Soc. Imp. Nat. Moscow*, 1897, p. 290).

"Beresonite, a New Mineral." From Beresowsk, Urals. Anal gives 2PbO, $3PbCrO_4$, $PbCO_3$.

Spencer, L. J. (*Nature*, April 14, 1898, p. 374).

"Miersite (a New Mineral)." A cubic modification of native ver iodide from Broken Hill, New South Wales.

Ward, H. A. (*Am. Jour. Sci.*, v. 135).

"Four New Australian Meteorites."

I. An octahedral siderite from near Roebourne, northwest tralia. Fe, 90.914; Ni, 8.330; Co, 0.590. Troilite scarce.

II. An octahedral siderite from Ballinoo, West Australia. Fe, Ni, 8.85; Co, 0.74; P, 0.501. Troilite, graphite and schreibersit

III. A siderite from Mungindi, P. O., New South Wales. Sh laphamite lines. Fe, 90.3; Ni, 8.23; Co, 1.36.

IV. An octahedral iron from Movranoppin, Western Austr Kamasite very prominent. Graphite and troilite.

All these irons show Widmanstätten figures.

Washington, H. S. (*Am. Jour. Sci.*, v., 447).

"Jerome (Kansas) Meteorite." A breccia chondrit stone nickel-iron, 4.3; troilite, 5.2; chromite, 0.9; schreibersite, 0.8; vine, 30.2; bronzite, 23.6; pyroxene, 5.0; oligoclase, 6.6; orthoc 1.6; limonite, 20.2; nickel oxide, 1.6.

II.

CHEMICAL MINERALOGY.

Anderson, W. C. (*Pro. Phil. Soc. Glasgow*, xxix., 72).

"A Contribution to the Chemistry of Coal, with Special Refer to the Coals of the Clyde Basin."

Antipow, I. (*Bul. Acad. St. Pet.*, vol. ix., p. 91).

"Chemical Researches on Two Meteorites."

Atkinson, E. A. (*Jour. Am. Chem. Soc.*, xx., 811).

"Indium in Tungsten Minerals." Indium has been supposed to accompany tungsten, but an analysis of minerals from various sources failed to find it, except the Wolframite from Zinnwald, where it also is present in sphalerite.

Boeris, G. (*Riv. Min.*, xx., 65).

"Epidote from Piedmont." Analysis gives H_2O, $4CaO$, $2Al_2O_3$, Fe_2O_3, $6SiO_2$.

Bourgeois, Leon (*Bull. Soc. Min.*, xxi., 170).

"On a Crystallized Basic Chlorate of Copper."

Brezina, A. (*Vh. G. Reichs.*, 1898, p. 62).

"New Observations on Meteorites."

Burrell, B. A. (*Pro. Yorkshire Geol. Soc.*, xiii., 284).

"The Comopsition of the Spar in Mother Shipton's Cave, Knaresborough." Analysis shows $CaCO_3$ 95.49, $CaSO_4$ 3.79, $SrSO_4$ 0.22, etc.

Cauffman, J. (*Min. Col.*, v., p. 1).

"Arsenic." The occurrence and properties are described.

Clarke, F. W. (*Min. Col.*, v., p. 152).

"Iridium."

—— (*Jour. Am. Chem. Soc.*, xx., 739).

"The Alkaline Reaction of Some Natural Silicates." Powdered minerals and rocks were treated for a short time with pure water. Cancrinite, pectolite, etc., soon gave an alkaline test with phenolphthalein.

Cohen, Dr. E. (*Ber. Ak., Berlin*, 1898, p. 306–307).

"Supplement to the Description of the Meteoric Iron from Beaconsfield." It contains free carbon in the form of anthracite.

Cole, G. A. J. (*Geol. Mag.*, v., p. 103).

"On the Flame-Reaction of Potassium in Silicates." The author decomposes the silicate with Na_2CO_3 in the usual way on Pt. wire and views it through blue glass 5 mm. thick. A quantitative scale is given at the end of the paper.

Cossa, A. (*Zeit. anorg. Chem.*, 17, p. 205).

"Tellurium in the Product of the Eruption of the Island of Vulcano, Lipari Isles." [*Spencer.*]

Carnot, Ad. (*Ann. Mines*, xiv., p. 113).

"Methods of Mineral Analysis."

Crookes, W. (*Am. Jour. Sci.*, vi., p. 184).

"Position of Helium, Argon, and Krypton in the Scheme of Elements."

Dalmer, K. (*Jahrb. f. Min.*, i., p. 165).

"Chemical Constitution of the Chlorite Group." The fundamental molecules assumed by the author are chloritoid and olivine.

Day, Wm. C. (*Pro. Am. Phil. Soc.*, xxxvii., p. 171).

"The Production of an Asphalt Resembling Gilsonite by Distillation of a Mixture of Fish and Wood."

Doss, Dr. (*Cor. Nat. Ver. Riga*, xl., 105).

"Sand in Gypsum Crystals." Gypsum crystals from Bog berge, Astrachan, are described containing 48.6 per cent. of sa in which the crystal form is preserved, as in the Fontainebl limestone.

—— (*Cor. Nat. Ver. Riga*, xl., 86).

"Madrid Meteorite." Concerning a piece of iron from Spain longing to Madrid meteorites. It is of terrestrial origin, and c tains no nickel, and does not show Widmannstätten figures.

—— (*Cor. Nat. Ver. Riga*, xl., 103).

"Sand in Calcite from Sumatra." A new locality for Fontai bleau limestone. SiO_2, 60.4 per cent.; $CaCO_3$, 39.50 per cent.

Friedel, Geo. (*Bul. Soc. Min.*, xxi., 135).

"Compact Muscovite from Montrambert, Loire." Sp. gr. 2.7 the greatest recorded. Analysis: SiO_2, 45.77; Al_2O_3, 27.70; Fe 1.98; CaO, 0.95; MgO, 0.89; Na_2O, 0.75; K_2O, 7.66; H_2O, 4.51.

Friedlaender, I. (*Vh. V. Bef. Gew.*, Feb. 7, 1898, p. 45).

"Production of Diamonds in Silicates Corresponding to the Na ral Occurrence in South Africa." Microscopic diamonds were p duced by stirring melted olivine with graphite. This is strik proof of the theory of Prof. Lewis as expressed 10 years previou [See "Genesis and Matrix of the Diamond," by H. C. Lewis. Edi by Prof. Bonney, London, 1897.]

Florence, W. (*Jahrb. f. Min.*, 1898, vol. ii., p. 102).

"The Production of Microscopic Crystals in the Blow-pipe Bea

Gramont, de M. A. (*Bul. Soc. Min.*, xxi., p. 94).

"Spectroscopic Analysis of Non-conductive Minerals by mean Fused Salts."

Hahn, H. C. (*Eng. Ming. Jour.*, lxv., p. 404).

"Some New Lime Salts." A possible artificial oldhamite.

Hartley, W. N. and Ramage, H. (*Chem. News*, lxxvii., p. 1

"On the Spectrographic Analysis of Some . . . . and Mi from the Stassfurth Beds."

Hasselberg, B. (*Bihang Ak. Stockh.*, vol. xxiii., pt. 1, No. 3).

"Chemical Constitution of Rutile." By means of the spectr vanadium and chromium are found by the author, where no viously detected by ordinary analysis.

Headden, Wm. P. (*Am. Jour. Sci.*, v., 93).

"Some Products found in the Hearth of an Old Tin Truro, Cornwall." Monoclinic stannous sulphide SnS; ort bic iron arsenide, probably löllingite; artificial wood tin the monoclinic compound Fe As + SnS and the new alloy Sn_6As are noted. It is to be regretted that so little data is given to account for their production.

Hillebrand, W. T. (*Am. Jour. Sci.*, vi., 209).

"Distribution and Quantitative Occurrence of Vanadium and Molybdenum in Rocks of the United States." V_2O_3 up to .08 per cent. seems to occur in the heavy ferric-aluminous silicates of the basic igneous and metamorphic rocks.

Istrati, C. S. (*Bul. Soc. Sci., Bucarest*, vii., 272).

"Roumanite" is noted from Prahova and Bouzéon, in Roumania. Analysis gave C, 79.98; H, 10.47; S, 0.918; Ash 0.13. It is clear, yellow, and transparent [*Spencer*].

Jruchot, P. (*Chem. News*, lxxvii., p. 145).

"The Occurrence and Extraction of Thorite, Monazite, and Zircon." A detailed paper recording new analyses of minerals from new and well-known localities.

Jones, H. C. (*Am. Chem. J.*, xx., 345).

"A Determination of the Atomic Weight of Praseodymium, and of Neodymium." The author finds Pr = 140.45; Nd = 143.6.

Kahlenberg, L. and Lincoln, A. T. (*Pro. A. A. A. Sci.*, xlvi., p. 151).

"On Solutions of Silicates of the Alkalies." This paper shows that these silicates may exist as colloidal silica and alkali in natural waters.

Kastle, J. H., Frazer, J. C. W., Sullivan, G. (*Am. Chem. J.*, xx., 153).

"Phosphatic Chert" of Central Kentucky. The "Lower Hudson chert" is found to average several per cent. of P_2O_5, and is the probable origin of the "Blue Grass" region.

Kelvin, Lord (*Rep. Bri. Asso.*, 1897, p. 553).

"On the Fuel Supply and the Air Supply of the Earth." Showing from statistics that the coal supply of Great Britain exceeds the amount of air required to burn it.

Kyle, J. J. J. (*An. Soc. C. Argentina*, xlvi., p. 236).

"Analysis of Coal from Tierra del Fuego." H_2O, @ 110°, 26.85; volatile, 31.63; fixed C, 39.47; ash, 2.05; also one much leaner.

Lacroix, Alfred (*Bul. Soc. Min.*, xx., 288).

"Products of Decomposition of Pyrites in the Paris Basin" are melanterite, $FeSO_4.7H_2O$, and sulpharite, H_2SO_4; these acting on clay give gypsum, $CaSO_4.2H_2O$; websterite, $Al_2O_3.SO_3.9H_2O$; halotrichite, $FeSO_4.Al_2(SO_4)$, etc., and with limestone; gypsum, siderite $FeCO_3$ and apatelite $2Fe_2O_3.6SO_3.3\ H_2O$.

—— (*Compt. rend.*, cxxvi., p. 553).

"The Formation of Anhydrite by the Calcination of Gypsum at a High Temperature."

Lovisato, D. (*Riv. Min.*, xviii., p. 33).

"Barium-Heulandite and other Zeolites from Sardinia." A rose-colored heulandite from Cape Pula contains $BaO = 2.55$ per cent. Sp. gr. 2.182.

Loyer, H. (*Bul. Soc. Ch.*, xvii., p. 345).

"Synthesis of Crystalline Alumina by the Action of Chlorine on an Alkali Aluminate." The artificial production of hexagonal crystals of ruby corundum.

Luedecke, Otto (*Zeit. Kryst. Min.*, xxix., p. 255).

"Langbeinite" occurs at the Prussian salt deposits (Neu-Strassfurt). New analyses agree with K_2SO_4, 2 $MgSO_4$.

Mallet, J. W. (*Am. Chem. Jour.*, xx., 776).

"On the Claims of Davyum to Recognition as a Chemical Element." It is to be acknowledged from the author's work that this metal of the Pt. group does not exist, but is a mixture of Ir and Rh with a little Fe.

Makin, C. J. S. (*Chem. News*, lxxvii., p. 155).

"On the Composition of the Atlantic Ocean."

Meldrum, R. (*Chem. News*, lxxviii., p. 177).

"Organic Matter in Burnt Clays at High Temperatures." It is shown that there are organic salts of iron which exist in the natural clay.

Metzke, H. (*Jahrb. f. Min.*, i., 169).

"Artificial Scarodite."

Moberg, Joh. Chr. (*Zeit. Kryst. Min.*, xxix., p. 386).

"Steenstrupine" has been again analyzed, but does not large
alter previous determinations. No simple formula can be assigne

Morse, N. H. and Arbuckle, H. B. (*Am. Chem. J.*, xx., 537).

"The Atomic Weight of Cadmium" is found to be 112.377.

—— (*Am. Chem. Jour.*, xx, 195).

"A Redetermination of the Atomic Weight of Zinc." 65.46 is
weight obtained.

Nasini, R., Anderlini, F., Salvadori, R. (*Gazzetta*, xxvi., pp 153).

"Gases from the Albano Springs and the Boracis Saffioni of
cany and the Combustible Gas from the Balognian Apenni
Ar, and He, are observed.

—— (*Chem. News*, lxxviii., p. 43).

"Terrestrial Coronium." The elementary gas *coronium*, befor
observed in the corona, is now reported as issuing from Vesu

Peckham, S. F. (*Pro. Am. Phil. Soc.*, xxxvii., 108).

"The Genesis of Bitumens as Related to Chemical Geology

—— (*J. Frank. Inst.*, cxlvi., p. 45–55).

"The Technology of California Bitumens." Of especial i
owing to the presence of nitrogen and sulphur in these nat

Phillips, F. C. (*Jour. Amer. Chem. Soc.*, xx., 696).

"On the Occurrence of Hydrogen Sulphide in the Natural Gas of Point Abino, Canada."

Pratt, J. H. (*Eng. Ming. Jour.*, lxv., 696).

"The Origin and Chemical Composition of Chromite."

Ramsay, Wm. and **Travers, M.** (*Chem. News*, lxxvii., p. 64).

"Fergusonite, an Endothermic Mineral." Helium is found in this and several related minerals. From its action, when heated, of evolving heat and fall of density Helium is shown to be in combination. A new analysis which differs somewhat from previous ones is given.

Richards, T. W. (*Am. Chem. Jour.*, xx., 543).

"A Table of Atomic Weights." This table differs in some elements from the values assigned by Clark.

—— and **Baxter, G. P.** (*Pro. Am. Acad.*, xxxiii., 115).

"A Revision of the Atomic Weight of Cobalt"—58.99.

—— and **Cushman, A. S.** (*Pro. Am. Acad.*, xxxiii., 97).

"A Revision of the Atomic Weight of Nickel." 58.69 is the weight found by the analysis of $NiBr_2$.

Richardson, J. E. (*Min. Col.*, v., p. 83).

"The Alteration of Mineral Species by the Action of Water." Describes the powerful action of water as a solvent.

—— (*Min. Col.*, v., p. 151).

"The Aspects of Pseudomorphous Crystals."

Schulten, A. de (*Bul. Soc. Min.*, xxi., p. 142).

"Artificial Reproduction of Lanarkite." "Artificial Reproduction of Lautarite."

—— (*Bul. Soc. Min.*, xxi., 87).

"The Artificial Production of Periclase by a New Method."

Skey, Wm. (*Trans. N. Z. Inst.*, xxx., p. 498).

"On the Electro-deposition of Gold upon the Gold of our Drifts." The author considers that the deposition of gold from solutions upon "seed gold" is due to electrolysis.

Scharizer, Rudolph (*Zeit. Kryst. Min.*, vol. xxx., p. 209).

"Contributions to the Knowledge of the Chemical Constitution and the Origin of Natural Ferrous Sulphate."

Spring, W. (*Bul. Acad. Belg.*, xxxvi., p. 266).

"On the Cause of the Absence of Coloration in Certain Natural Limpid Waters."

Tennier, P. (*Bul. Soc. G.*, xxvi., p. 165).

"On the Elimination of Calcium by Metamorphism from the Basic Eruptive Rocks of Pelvoux."

Travers, M. W. (*Chem. News*, lxxviii., p. 305).

"The Origin of the Gases Evolved on Heating Mineral Substances, Meteorites, etc."

Van Hoff, I. H.
“The Arrangement of Atoms in Space.” An appendix deals with the stereo-chemistry of inorganic substances.

Venable, F. P.
“The Development of the Periodic Law.” Interesting and valuable contribution to the history of chemistry.

Vogt, J. H. L. (*Zeit. f. Prakt. Geol.*, 1898, p. 413).
“The Relative Distribution of the Elements, particularly the Heavy Metals,” p. 225-238, 314-327. “The Concentration of the Originally Finely Distributed Metals,” p. 377-392.

Winkler, C. (*Pop. Sci. Mon.*, lii., p. 825).
“Discovery of New Chemical Elements.” A review of the discoveries of the past twenty-five years.

Withrow, J. R. (*Min. Col.*, iv., p. 174.)
“Boron.” An account of the properties of this element, its compounds and minerals.

Young, S. (*Jour. Chem. Soc.*, lxxiv., p. 905, etc.)
“Composition of American Petroleum.”

III.

PHYSICAL MINERALOGY.

Alexatt, P. (*Bull. Soc. Imp. Nat. Moscow*, No. 3, pp. 467–468).
“The Crystal Form of Strontium Formate.” Orthorhombic sphenoids.

Barlow, Wm. (*Zeit. Kryst. Min.*, vol. xxix., p. 433).
“Geometrical Investigation of a Mechanical Cause of Homogeneity of Structure and Symmetry, with particular application to crystallization and chemical combination.”

Barus, C. (*Pro. A. A. A. S.*, xlvi., 65).
“Long Range Temperature and Pressure Variables in Physics.” A historical review of the methods of pyrometry and piezometr with notes on their application to the geological phenomenon the earth’s crust and interior.

Bates, A. C. (*Min. Col.*, v., 39).
“Twin Crystals of Quartz, Japan.”

Baumhauer, H. (*Zeit. Kryst. Min.*, vol. xxx, p. 97).
“The so-called Anomalous Etching Figures on Monocli’ Crystals, in particular on Colemanite.”

Beckenkamp, J. (*Zeit. Krys. Min.*, vol. xxx., pp. 55, 321).
“The Symmetry of Crystals.”

Becker, Geo. F. (*Am. Jour. Sci.*, v., 349).
“On the Determination of Plagioclase Feldspars in Rock tions.”

Beijerinck, F. (*Jahrb. f. Min.*, vol. xi., p. 403).
"The Conductivity of Minerals for Electricity."

Bentley, W. A. and **Perkins, G. H.** (*Pop. Sci. Mon.*, liii., p. 74).
"A Study of Snow-Crystals." An interesting paper illustrated by very clear photos.

Brauns, R. (*Jahrb. f. Min.*, vol. i., p. 40).
"Polymorphism and the Optical Anomalies of Sodium Chlorate and Bromate."

Bourgeois, Leon (*Bul. Soc. Min.*, xxi., 32).
"On the Crystallized Phosphates of Uranium."

Couriot, H. (*Compt. rend.*, cxxvi., p. 1588).
"Examination of a Combustible Mineral by means of the Röntgen Rays."

Currie, James (*Trans. Edinb. Geol. Soc.*, vii., 252).
"On Apophyllite from Cape Colony." Some apparently new crystal forms are noted from the De Beers (diamond) mines, So. Africa.

D'Archiardi, G. (*Att. Soc. Tosc.*, xvi.)
"Aurichalcit from Tuscany" is shown to be monosymmetric.

Döll, Ed. (*Vh. G. Reichs.*, No. 8, 1898, p. 222).
I. Calcite after aragonite. II. Serpentine after kämmererite, polybasite after stephanite, and epidote after axinite; three new pseudomorphs. III. The occurrence of talc in magnesite.

—— (*Vh. G. Reichs.*, No. 4, 1898, p. 110).
"Hornblende after Garnet, Chlorite after Garnet, and Magnetite after Pyrrhotite: a new pseudomorph."

—— (*Vh. G. Reichs.*, No. 4, 1898, p. 111).
"Dolomite after Magnesite, Deweylite after Kämmererite: two new pseudomorphs."

Dufet, M. H. (*Bul. Soc. Min.*, xxi., p. 90).
"The Optical Properties of Calomel ($Hg_2 Cl_2$)."

Eakle, Arthur S. (*Pro. U. S. Nat. Mus.*, xxi., p. 361).
"Topaz Crystals in the Mineral Collection of the U. S. National Museum." A crystallographical study of the specimens in the National Museum.

Eppler, A. (*Zeit: Kryst. Min.*, vol. xxx., p. 118).
"Contributions to the Relations between the Crystal and its Chemical Constitution."

Farrington, O. C. (*Am. Jour. Sci.*, v., 285).
"Datolite from Guanajuato," Mexico. A crystallographic study noting new forms of tabular rhombohedral aspect.

Fels, G. (*Zeit. Kryst. Min.*, 1898, vol. xxix., p. 279).
"A New Investigation of the Crystals of Xanthophyllite."

Freidel, Georges (*Zeit. Kryst. Min.*, xxix., 678).
"New Experiments on Zeolites." It is here shown that in remov-

ing the H_2O from analcite a current of dried air should be passed over the powder in a heated tube. If the mineral is againallowed to absorb H_2O, a much higher temperature will be required to remove it. Analcite is suggested to be tetragonal like leucite, and not isometric.

Goldschmidt, V. (*Vh. G. Deutch Nat. Ärzte*, 1897, Pt. 2, p. 201).

"Crystal Measurement and Angle Tables."

—— (*Zeit. Kryst. Min.*, 1898, vol. xxix., p. 361).

"The Non-parallel Combinations of Crystal Particles."

—— (*Zeit. Kryst. Min.*, vol. xxx., p. 346).

"The Recognition of a Twin."

—— (*Zeit. Kryst. Min.*, vol. xxx., p. 254).

"The Definition of a Twin."

—— (*Zeit. Kryst. Min* , vol. xxx., p. 260).

"Stereographical Projection."

Gonnard, F. (*Compt. rend.*, cxxvi., p. 1731).

"The Crystalline Forms of Quartz in Geodes from Meylan (Isère), France."

Heddle, M. F. (*Trans. Edinb. Geol. Soc.*, vii., p. 265).

"On the Crystalline Forms of Reibeckite." Perfect crystals of this rare member of the amphibole group are figured and described from the ailsyte of Ayrshire, Scotland.

—— (*Trans. Edinb. Geol. Soc.*, vii., p. 241.)

"On Analcine with New Forms."

Hussak, E. (*Jahrb. f. Min.*, 1898, vol. ii., p. 99).

"A Remarkable Twinning of Brookite from Rio Cipo, Minas Geraes, Brazil."

Klein, C. (*Jahrb. f. Min.*, vol. xi., p. 475).

"Leucite and Analcite and their Mutual Relations."

—— (*Ber. Ak. Berlin*, 1898, pp. 521–522).

"Bornite from Tyrol."

—— (*Ber. Ak. Berlin*, 1898, pp. 385–386).

"A New Form of Bornite from the Tyrol." The form is icosi
trahedral. The association is also interesting—an icositetrahedr
of gold.

Kraatz, K. V. (*Vh. G. Deutch. Nat. Ärzte*, Leipzig, 1898).

"Microscopic Minerals from Rock Salt." Some yellow varie
were colored by prisms of göthite. All red varieties were not col
by hematite, but some by a red clay. Quartz crystals, simil
habit to those from Herkimer county, N. Y., were observed.

Lacroix, A. (*Arch. Mus. Hist. Nat.*, ix., 201).

"The Gypsum of Paris and the Accompanying Minerals." (
contribution to the mineralogy of the Paris basin.) A sple
monograph, with 16 excellent plates. The minerals accompan
the gypsum of the tertiary beds of Paris are carefully desc

Besides numerous pseudomorphs, calcite, fluorite, quartz, magnesite, celestite, pyrite, marcasite, melanterite, websterite, halotrichite, siderite, vivianite, blende and succinite are among the minerals noted.

Martin, K. (*Zeit. Kryst. Min.*, vol. xxix., p. 278).

"A Tetrahedral Gold Crystal."

Moses, A. J. (*Sch. Mines Q.*, xix.).

"An Introduction to the Study and Experimental Determination of the Characters of Crystals." An extensive article running through this volume, and of a most valuable practical nature.

Mourlot, M. (*Compt. rend.*, cxxvii., p. 408).

"The Crystallization of the Anhydrous Sulphides of Calcium and of Strontium." These were found to crystallize in the isometric system.

Mügge, O. (*Jahrb. f. Min.*, 1898, vol. i., p. 71).

"Translations and Kindred Phenomena in Crystals."

Nordenskiöld, Gustav. (*Geol. För. Förh.*, vol. xx., p. 163).

"Two Photographs of Snow Crystals."

Osmond, F. (*Compt. rend.*, cxxvi., p. 1352).

"Minute Structure of Alloys of Iron and Nickel."

Pratt, J. H. (*Am. Jour. Sci.*, v., 126).

"Mineralogical Notes on Cyanite, Zircon and Anorthite from North Carolina." Perfectly terminated crystals of green cyanite have been obtained in Yancey county. Crystallographic measurements reveal a new face: t, 520. Fe or Cr not present. Good crystals of zircon were obtained from New Stirling, Iredell county. An analysis of anorthite from the troctolite of Clay county is given.

Prior, G. T. (*Min. Mag.*, xii., p. 26).

"On Sphærostilbite." It is shown that no such mineral exists, and that the so-called sphærostilbite is in reality aggregates of thomsonite.

Rodewyk, A. (*Min. Mitth.*, vol. xvii., p. 544).

"The Titanite Crystals of the Breunergweiss."

Sjögren, H. S. A. (*Geol. För. Förh.*, 1897, xix., p. 153).

"Crystalline Form and Composition of Boulangerite." The mineral is here shown to be orthorhombic 5 PbS, 2 Sb_2 S_3.

Smith, H. G. F. (*Min. Mag.*, xii., p. 15).

"Atacamite from Sierra Gorda, Chili." An extensive and important crystallographic study. Caracolite from the same locality, and its orthorhombic character again suggested.

Tennier, M. P. (*Bul. Soc. Min.*, xxi., p. 148).

"On a variety of Zoisite from the Metamorphic Schists of the Alps and the Optical Properties of Typical Zoisite."

Turner, A., also **Barlow, W.** (*Nature*, March 3, 1898).

"The Structure of Crystals." A review of the work done by the two investigators individually on the molecular structure of crystals, using balls placed in certain positions in illustration.

Ulrich, G. H. F. (*Min. Mag.*, xii., p. 23).

"Note on peculiar Quartz-Pseudomorphs found at the Owera Mine, Opitomei, North Island, New Zealand." These pseudomorphs occur in scalenohedra, and calcite is suggested as the original mineral. Precious opal is also noted from North Island.

Uroschewitsch, S. (*Zeit. Kryst. Min.*, vol. xxix., p. 278).

"A new kind of Biotite twin."

Vater, H. (*Zeit. Kryst. Min.*, vol. xxx., p. 485).

"The Influence of the Mother Solution on the Crystallization of Calcium Carbonate."

Viola, C. (*Zeit. Kryst. Min.*, vol. xxx., p. 23).

"Feldspar Determination."

—— (*Zeit. Kryst. Min.*, vol. xxx., p. 417).

"An Investigation carried on in the Mineralogical Institute at Münich."

—— (*Zeit. Kryst. Min.*, 1898, vol. xxix., p. 234).

"Homogeneity."

—— (*Zeit. Kryst. Min.*, vol. xxx., p. 36).

"Trial of an Elementary Feldspar Determination in Sections, According to the General Principle of Probability."

—— (*Zeit. Kryst. Min.*, vol. xxx., p. 232).

"The Determination and Isomorphism of the Feldspars."

Voigt, W. (*Nachr. K. Ges. Wis. Göt.*, 1898, p. 146).

"Remarks on the Magnitude of the Tension and Deformation by which Gliding-Planes Arise in Calcite."

Von Fedorow, E. (*Zeit. Kryst. Min.*, vol. xxx., p. 9).

"Crystal-drawing."

—— (*Zeit. Kryst. Min.*, 1898, vol. xxix., p. 604).

"The Universal Method and Feldspar Studies. Feldspars of Bogoslowsk'shen Bergreviess."

—— (*Zeit. Kryst. Min.*, vol. xxx., p. 17).

"Isomorphism."

Wadsworth, M. E. (*Am. Geol.*, xxi., p. 170).

"Some Methods of Determining the Positive or Negative Ch
acter of Mineral Plates in Converging Polarized Light with the
trographical Microscope."

Walker, T. L. (*Am. Jour. Sci.*, v., 176).

"Examination of Some Triclinic Minerals by Means of Etchi
Figures." Axinite, chalcanthite, rhodonite, cyanite, etc., are sho
to be centro-symmetric-triclinic from the action of corroding r
gents. No minerals are known asymmetric-triclinic, but acid
tro-tartrate of strontium shows this property and is used for
parison.

—— (*Am. Jour. Sci.*, vi., p. 41).

"Crystalline Symmetry of Torbernite." Torbernite is show etching figures and other means to be monoclinic and not tetragonal, as was formerly given.

Wallerant, Fred. (*Compt. rend.*, cxxvi., p. 664).

"Optical Anomalies and Polymorphism."

—— (*Bul. Soc. Min.*, xxi., p. 44).

"Memoir on Fluorite."

—— (*Compt. rend.*, cxxvi., p. 1586).

"Polymorphism."

—— (*Bul. Soc. Min.*, xxi., p. 188).

"Theory of Optical Anomalies, Isomorphism and Polymorphism."

—— (*Compt. rend.*, cxxvi., p. 495).

"The Polymorphism of Fluorite."

Weisbach, A. (*Jahrb. Min.*, 1898, vol. ii., p. 150).

"A Pseudomorph of Opal from Australia."

Weinschenk, E. (*Min. Mitth.*, vol. xvii., p. 567).

"A New Constituent of Some Meteorites." Plageoclase in diallage in olivine meteorites.

Winchell, N. H. (*Am. Geol.*, xxii., p. 228).

"Note on the Characters of Mesolite from Minnesota." From optical examination the so-called thomsonite is proved to be mesolite.

—— (*Am. Geol.*, xxi., pp. 12–49).

"The Determination of the Feldspars." A most valuable petrographical paper, following the methods of the noted French savants.

IV. GENERAL MINERALOGY.

Adams, F. D. and **Nicolson, J. T.** (*Rept. Bri. Assoc.*, 1897, p. 642).

"Preliminary Notice of Some Experiments of the Flow of Rocks." The authors show that marble has the power of flowing when subjected to high pressure and to a certain degree retaining its structure.

—— (*Sci. Am.*, lxxviii., p. 269).

"Recent Experiments on the Flowing Rocks Carried out at McGill University." The apparatus is figured and described.

Adams, F. D. (*Bul. Geol. Soc. Am.*, ix., p. 163).

"Nodular Granite from Pine Lake, Ontario."

Bates, A. C. (*Min. Col.*, v., p. 81).

"Capped Quartz" describes a recent find of interesting quartz from Placerville, Cal.

Bäckström, Helge (*Zeit. Kryst. Min.*, vol. xxx., p. 352).

"Phenacite from Kragerö."

Beck, R. (*Zeit. f. Prakt. Geol.*, *Berlin*, 1898, pp. 163-164).

"The Diamond Deposit of Newland, in West Griqua Land."

—— (*Zeit. f. Prakt. Geol., Berlin*, 1898, pp. 121–127).

"The Tin Deposits of Baugka and Billiton."

Becker, Geo. F. (*Min. Col.*, v., 124).

"The Gold Fields of South Africa."

Bergt, W. (*Sitz. Nat. Ges. Isis*, 1897, p. 61).

"The Geology of San Domingo."

Beyschlag, Fr. (*Zeit. f. Prakt. Geol.*, 1898, pp. 1–4).

"The Cobalt Veins of Schweina, Thuringia."

Blake, Wm. P. (*Eng. Ming. Jour.*, lxv., 608).

"Wolframite in Arizona." At Russellville, Cochise county, hubnerite, also scheelite.

—— (*Eng. Ming. Jour.*, lxv., p. 188).

"Native Sodium Carbonate." A large deposit of trona containing Na_2CO_3, 71.96 per cent., is reported from the northern part of State of Sonora, Mexico.

Borden, H. C. (*Min. Col.*, v., p. 68).

"The Minerals of the Avondale and Leiperville Localities," in Delaware county, Pa.

Bouldin, P. (*Sci. Am.*, lxxix., p. 395).

"Patrick County, Va., and its Curious 'Fairy Stones.'" An absurd account of staurolite, accompanied by a plate. "Some of these stones which have been analyzed contain titanite, tourmaline, garnet, aluminum and steatite." (?)

Brough, B. H. (*Nature*, March 17, 1898, p. 473).

"The Lake Superior Iron-Ore Region."

Brown, Amos P. (*Bul. Mus. U. of Pa.*, i.).

"Jade and Similar Green Stones."

Busz, K. (*Jahrb. f. Min.*, 1898, vol. i., p. 35).

"Calcite, Hornblende, and Andesite from the Siebengebirge."

Cabrera, R. and **Levy, L. E.** (*Frank. Inst.*, cxlvi., pp. 26–45).

"Mineral Resources of Cuba." A most interesting and timely article plainly showing the advantages to be derived from a scientific and thorough reconnoissance of this promising island.

Cadell, H. M. (*Trans. Edinb. Geol. Soc.*, vii., p. 173).

"Note on the Occurrence of Vivianite in an Old Lake Bed at Cauldhame, near Linlithgow."

—— (*Trans. Edinb. Geol. Soc.*, vii., 183).

"A Visit to the New Zealand Volcanic Zone." The author describes the effect of the extensive volcanic eruptions a few years ago.

Chester, A. H. (*Am. Jour. Sci.*, v., 375).

"Krennerite from Cripple Creek, Colorado." This mineral, new to America, occurs in excellent orthorhombic crystals 2 mm. in length of a pale yellowish-bronze color. Analysis gives $AuTe_2$.

Chibas, E. (*Trans. Am. Inst. Ming. Eng.*, xxvii., p. 63).

"The Manganese-Deposits of the Dept. of Panama, Republic of Colombia." An extensive report giving new and valuable information about these new mines of very rich ore.

Claremont, L. (*Eng. Ming. Jour.*, lxv., 606).

"How to Identify Precious Stones."

Claypole, E. W. (*Am. Geol.*, xxii., p. 217).

"Microscopical Light on Geological Darkness." Prof. Claypole derives carbon necessary for the formation of coal from the inclusions of CO_2 liberated by the wearing of the ancient rocks where it exists as microscopic inclusions. An ingenious hypothesis and full of interest.

Colomba, L. (*Att. Acc. Torina*, xxvi., p. 811).

"Epidote, etc., from Oulx."

Cumenge, M. E. (*Bul. Soc. Min.*, xxi., 137).

"The Copper Strata of Inguaran, State of Michoacan, Mexico."

Currie, James (*Trans. Edinb. Geol. Soc.*, vii., 223).

"The Minerals of the Tertiary Eruptive Rocks of Ben More, Mull." Scolecite, epidote, celadonite, saponite, heulandite, stilbite, prehnite are the minerals described.

Deecke, W. (*Mitt. Nat. N. V. Rügen*, 1897, p. 20).

"The Phosphate-bearing Strata of Bornholms."

Duparc, L. and **Ritter, E.** (*Arc. Sci. Phy. Nat.*, v. 145).

"The Minerals of D'Ain, Oudrer, Algeria."

Edwards, A. M. (*Chem. News*, 78, p. 294).

"Thimolite." Nothing new is added.

Ferrier, W. F. (*Eng. Ming. Jour.*, lxv., p. 548).

"The Corundum Deposits of Eastern Canada."

Flink, Gust. (*Y. Tid. Ant. Geog.*, 1898, p. 141).

"A Mineralogical Trip to Greenland in 1897."

Foote, W. M. (*Am. Jour. Sci.*, vi., p. 187).

"Note on the Occurrence of Native Lead with Roeblingite, Native Copper and Other Minerals at Franklin Furnace, N. J."

France (*Ann. Mines*, xiii., 321).

"Statistics of the Mineral Industry of France." Tables of the production of fuel and iron and steel are given.

Gemböck, H. (*Jahrb. f. Min.*, 1898, vol. ii., p. 89).

"The Andalusite from Montavon in Vorarlberg."

Gilpin, E.

"Ores of Nova Scotia." A report of forty-six pages, with map, to the "Commissioner of Public Works and Mines," of the gold, lead and copper deposits, Halifax, N. S., 1898.

—— (*Rept. Bri. Assoc.*, 1897, p. 663).

"The Geological Horizons of Some Nova Scotia Minerals."

Gipps, F. G. de V. (*Min. Col.*, v., p. 53).
"Opal Fields of Australia."

Gladstone, J. H. (*Sci. Am. Sup.*, xlv., 18,734).
"The Metals Used by the Great Nations of Antiquity."

Goodchild, J. G. (*Trans. Edinb. Geol. Soc.*, vii., 201).
"Notes on the Minerals of the Hilderston Silver Mines, Lin gow." The ore is an argentiferous galenite which has nicco annabergite and erythrite in association.

—— (*Trans. Edinb. Geol. Soc.*, vii., 121).
"On Some of the Modes of Origin of Oil Shales, with Rem upon the Geological History of Some Other Hydrocarbon C pounds."

Goldsmith, E. (*Pro. Acad. Nat. Sci.*, 1898, p. 98).
"The Petrifaction of Fossil Bones." The inter-glacial fossil b of the Port Kennedy bone-hole are found to be metamorphose dolomite [$CaCO_3$ 54.27 per cent.; $MgCO_3$ 43.74 per cent.; insol. per cent.]. Vivianite is noted as an associate mineral.

—— (*Pro. Acad. Nat. Sci.*, 1898, p. 90).
"Volcanic Rocks of Mesozoic Age in Pennsylvania." The logical structure near Pottstown, Montgomery county, is interpr to represent an ancient volcanic crater.

Groth, E. A. (*Min. Col.*, v., 49).
"Asbestus." A summary.

"Guide to the Excursions of the Eighth International G logical Congress, St. Petersburg, 1897." A large, handson illustrated volume containing thirty-six articles on the geol of the places visited by the Congress.

Gurich, Dr. (*Jb. Ges. Vat. Cul.*, 1898, p. 7).
"The Gold Occurrence of Würbenthal"

—— (*Jb. Ges. Vat. Cul.*, 1898, p. 4).
"The Theory of the African Diamond Deposits."

Hamilton, S. Harbert (*Pro. Acad. Nat. Sci.*, 1898, p. 485).
"The Occurrence of Marcasite in the Raritan Formation." occurrence of spear marcasite and the pseudo-morphism with py is noted from Sayreville, N. J.

Hatch, F. H. (*Q. J. Geol. Soc.*, lvi., pp. 73–100).
"On the Geology of the Witwatersrand and Other Districts the Southern Transvaal."

Heighway, A. E. (*Eng. Ming. Jour.*, lxv., 543).
"Monazite Production in North Carolina."

Helmhacker, R. (*Eng. Ming. Jour.*, lxv., 516).
"The Occurrence of Diamonds in Russia." A historic acco

—— (*Eng. Ming. Jour.*, lxv., 38).
"The Mineral Resources of Persia," mostly undeveloped.

Henderson, W. C. (*Jour. Frank. Inst.*, cxlvi., pp. 47–54).

"Kryolith. Its Mining, Preparation and Utilization." An article upon the cryolite industry.

Hidden, W. E. and **Pratt, J. H.** (*Am. Jour. Sci.*, vi., 463).

"Associated Minerals of Rhodolite." Quartz, pseudo-garnet, corundum. The kreittonite variety of gahnite on analysis gave (12Zn, 4Fe, 3Mg)O, Al_2O_3. Bronzite of beautiful gem quality (new), iolite, cyrtolite, gold. Sperrylite in pentagonal dodecahedrons are of the most interest.

Hidden, W. E. (*Am. Jour. Sci.*, vi., 381).

"Occurrence of Sperrylite in North Carolina." This very rare arsenide of platinum is recorded in cubo-octahedrons from gold gravels of "Ned Wilson Branch," in Macon county. The entire find, 0.0019 gram, gave reactions for As and Pt.

Hill, Robt. T., et al. (*Bul. Mus. Com. Zoö.*, xxviii., 151).

"The Geological History of the Isthmus of Panama and Portions of Costa Rica." The connection between the two continents is shown to have occurred at the close of the Miocene.

Hofmann, A. (*Sitz. Ges. Wiss. Prag.*, 1897, article xlix.).

"A New Occurrence of Berthierite in Böhemia."

Hopping, Roy. (*Min. Col.*, v., p. 113).

"Spearhead Markasite Twins from Sayreville, N. J." Describes the specimens obtained on the trip of the N. Y. and Phila. Students' Mineralogical Clubs to this place on Labor Day, 1898.

Hussak, E. (*Zeit. Prakt. Geol.*, 1898, pp. 345–357).

"The Gold-bearing, Quartz-gravel Deposit of Passagem in Minas Geraes, Brazil."

Ingalls, W. R. (*Trans. Am. Inst. Ming. Eng.*, xxvii., p. 428).

"Notes on the Tin-Deposits of Mexico." Some new localities are noted.

J. W. J. (*Nature*, Feb. 3, 1898).

"Diamonds." Critical notes and reviews of the works of Profs. Lewis and Crooks.

Jordan, P. (*Ann. Mines*, xiv., p. 530).

"Mineral Industry of Japan."

Karuth, F. (*Sci. Am. Sup.*, xlvi., 18,877).

"Mineral Resources of the Philippine Islands." Rich deposits of gold are plentiful, chalcopyrite, galena, carrying Au and Ag massicot; small rubies also occur.

Kemp, J. F. (*Trans. Am. Inst. Ming. Eng.*, xxvii., p. 146).

"The Geology of the Magnetites Near Port Henry, N.Y., and Especially Those of Mineville." A "mineralogy of the mines" is given.

Kimball, James P. (*Am. Geol.*, xxi., p. 155).

"Residual Concentration by Weathering as a Mode of Genesis of Iron Ores."

Kloos, Dr. (*Zeit. Prakt. Geol.*, 1898, pp. 158–163).
"Cinnabar bearing trachytuffa from Monte Amiata, South Tuscany."

Knerr, E. B. (*Sci. Am.*, lxxviii., p. 162).
"Natural Gas Occurs near Atchison, Kansas."

Kunz, Geo. F. (*Jour. Frank. Inst.*, cxlvi., pp. 193–214, 264).
"A Trip to Russia and the Ural Mountains." An interesting account of this famous mineral region, with a correlation of many new facts.

—— (*Jour. Frank. Inst.*, cxlvi., pp. 24–35, 133–143).
"Geography of Precious Stones." A masterly historic article dealing with the influence of gems upon the world's progress since antiquity.

Lacroix and Gautier (*Compt. rend.*, cxxvi., p. 1529).
"The Minerals of the Basaltic Fumerolles of Royat."

—— (*Bul. Mus. d'Hist. Nat.*, 1898, p. 43).
"On Some Minerals from Boleó (Lower California)."

De Launay, L. A. (*Ann. Mines*, xiii., p. 159).
"Geographical Studies of the Ægean Sea. Geology of the Islands of Mitylene, Limnos, and Thasos."

Luhmann, H. (*Vh. G. Deutch Nat. Ärzte*, 1897).
"A Supposed Pseudomorph of Sphalerite after Calcite and Barite, from Andreasberg, in Hartz." The specimen proved to be a furnace product. The slag covered sharp pieces of wood, which gave a form resembling scalenohedra to superficial observation.

Lukis, E. duB. (*Eng. Ming. Jour.*, lxv., p. 279).
"A New Copper Deposit in Mexico." Cu 9, Zn 23, Pb 2, Fe 18.50, S 33, SiO_2 13.50 is the analysis of the ore from Tezintlan, Puebla.

Lyman, B. S. (*Jour. Frank. Inst.*, cxlvi., 416).
"Copper Traces in Bucks and Montgomery counties, Pennsylvania." Notes the occurrence of copper minerals in the Trias in and near the Schuylkill Valley.

Maynard, Geo. W. (*Trans. Am. Inst. Ming. Eng.*, xxvii., p. 283).
"The Chromite Deposits of Port au Port Bay, Newfoundland." A new occurrence of this valuable mineral. The deposit is extensive, although of poor quality.

Milch, L. (*Jb. Ges. Vat. Cul.*, 1898, p. 4).
"The Supposed Meteoric Stone of Brieg."

Miller, W. G. (*Rept. Bri. Assoc.*, 1897, p. 660).
"On Some Nickeliferous Magnetites." The author notes the occurrence of 0.8 per cent. or more of Ni in the titaniferous magnetites of Ontario.

Mrarzec, L. (*Bull. Soc. Sci. Bucarest*, vii., p. 187).
"Jadeitite from Piedmont." A new rock composed of jadeite and oligoclase. Sp. gr. 3.346. [*Spencer.*]

Mügge, O. (*Jahrb. f. Min.*, 1898, vol. ii., Pt. 2, p. 151).

"Arranged Associations of Copper with Cuprite from Burra-Burra, South Australia.

Nordenskjöld, Otto (*Bul. Geol. Inst. Upsala*, vol. iii., No. 6, p. 343).

"Some Ore-Deposits of the Atacama Desert." 1. Copper-mine of Amolauas. 2. Silver-mine of Los Bordos.

Otalski, M. J. (*Ann. Mines*, xiii., p. 617).

"Beds of Chromite in the Province of Quebec, Canada." The product of these mines are worked up at Philadelphia.

Ochsenius, Carl (*Zeit. f. prakt. Geol.*, 1898, pp. 153–158).

"Methane, Bitumen, Asphalt, Anthracite, Graphite and Diamond."

Ogilvie, Wm. (*Sci. Am. Sup.*, xlv., p. 18,412).

"Story of the Yukon," illustrated.

Orton, Ed. (*Bul. Geol. Soc. Am.*, ix., p. 85).

"Geological Probabilities as to Petroleum." The author threatens the failure of the supply to last 50 more years if its reckless waste is persisted in.

Pinnington, Ed. (*Min. Col.*, v., 72).

"Jade." A summary of this mineral.

Pratt, J. H. (*Am. Jour. Sci.*, v., p. 429).

"Mineralogical Notes . . . . from North Carolina." Anthophyllite occurs in crystals 2 mm. to 6 mm. dia. by 3 cm. in length (not terminated) in the dunite rock near Bakersville. An analysis is given. Enstatite from Corundum Hill and bronzite are analyzed; the latter gave the formula $(Mg, Fe)SiO_3$ nearly. Good emerald is noted from near Spruce Pine P. O., Mitchell county.

Pourcel, M. A. (*Am. Mines*, xiii., p. 664).

"Beds of Manganese at Tchiatom, Russia." The ore shows 85+ per cent. MnO_2.

Preston, H. L. (*Am. Jour. Sci.*, v., p. 62).

"Iron Meteorites as Nodular Structures in Stony Meteorites." The author considers that siderites have been derived from the wasting away of the stony matter of the aerolites, and that the pittings, etc., indicate a slower cooling than a smooth external surface, and consequently a more crystalline internal structure.

Prior, G. T. and **Spencer, L. J.** (*Min. Mag.*, xii., p. 5).

"Stanniferous Argyrodite from Bolivia: The Identity of the so-called 'Crystallized Brougniardite' with Argyrodite-Canfieldite."

—— (*Zeit. f. Kryst. Min.*, vol. xxix., p. 346).

"The Identity of Andnorite, Sundite and Webnerite."

Rand, J. C. (*Min. Col.*, iv.).

"Minerals of Massachusetts." An excellent article for students of mineralogy to use in visiting and collecting in Massachusetts.

Redlich, K. A. (*Min. Mitth.*, vol. xvii., p. 518).
"Mineralogical Communications." Some on: Vanadinite from Galmukogel, near Annaberg, in lower Austria. Pseudomorph of quartz after fluorite, calcite, and zincblende, etc.

Reese, C. T. (*Jour. Am. Chem. Soc.*, xx., 795).
"Petroleum Inclusion in Quartz Crystals," from Diamond P. O., Marshall county, Ala.

Richthofen, Ferdinand von (*Zeit. f. Prakt. Geol.*, 1898, p. 73).
"The Geological Structure of Shantung." . . . (*Am. Geol.*, xx., p. 321). Describes especially the occurrence of coal in this new Chinese possession of Germany.

Rickard, T. A. (*Eng. Ming. Jour.*, lxv., 494).
"The Minerals which Accompany Gold."

Rolland, Georges (*Compt. rend.*, cxxvi., p. 285).
"The Beds of Oolithic Iron Minerals of the Basin of Briey."

Schmidt, A. (*Zeit. Kryst. Min.*, 1898, vol. xxix., p. 193).
"Some Minerals from the Vicinity of Schlaining." 1. Stibnite. 2. Sulphur and gypsum. 3. Calcite, barite and cinnabar.

S. (*Sci. Am.*, lxxxix., p. 85).
"The Romance of Aluminum." Al is said to have been known about 7 A. D., but the secret perished.

—— (*Sci. Am. Sup.*, xlvi., p. 18,928).
"Australian Diamonds."

—— (*Sci. Am. Sup.*, xlv., 18,524).
"The Russian Petroleum Industry." A popular account of the second largest oil field in the world.

Schubert, R. (*Min. Mitth.*, xviii., p. 251).
"Whewellite from Brüx, Bohemia." The mineral occurs at coal- and salt-mines near here.

Section of Geol. and Min. of the N. Y. Acad. Sci., meeting of Oct. 17, 1898 (*Science*, viii., p. 839).
"Minerals of the Copper Mines at Ducktown, Tenn."
"A Meteoric Stone which fell August 5th, at Andover, Maine." Weight 7 lbs.

Sjögren, Hj. (*Geol. För. Förh.*, vol. xx., p. 25).
"The Method of Formation of the Manganosites and Periclasites at Langbau and Nordmarken."

—— (*Geol. För. Förh.*, vol. xx., p. 21).
"A Find of Native Silver, Mercury, Amalgam and Cinnabar in the Sala Mines (Sweden).

Spencer, L. J. (*Min. Mag.*, xii., p. 1).
"Angelite from a New Locality in Bolivia."

Sohncke, L. (*Zeit. Kryst. Min.*, vol. xxx., p. 1).
"The Influence of the Temperature of Dehydration in Gypsum on its Weathering Marks."

Souvielle, E. M. (*Sci. Am. Sup.*, xlvi., p. 19,157).
"Diamonds in Meteorites." Considers the Kimberley deposits a meteoric formation (?).

Tatham, Wm. (*Jour. Frank. Inst.*, cxlvi., pp. 19–26).
"Gold Mining in Georgia."

Thomae, W. F. A. (*Sci. Am. Sup.*, xlv., 18,568).
"Emery in Asia Minor." The working of these well-known deposits is described.

Truchot, P. (*Chem. News*, lxxvii., p. 134).
"On the Occurrence and Extraction of Thorite, Monazite and Zircon."

Turner, W. H. (*Am. Jour. Sci.*, v., p. 421).
"Notes on Rocks and Minerals from California." The following are of especial interest: "A quartz-alunite rock," Mariposa county; zircons, from the gravel of Plumas county similar to those from the gold-washings of North Carolina. Molybdenite from Mt. Hoffman, Yosemite Park, and elsewhere. Te, Se, and Ni in gold-ores from Tuolumne county. Impure berthierite from Mt. Gibbs, Tuolumne county.

Valiant, W. S. (*Min. Col.*, v., 32).
"Barite and Aragonite."

—— (*Min. Col.*, v., p. 145).
"An Old Mining Region." An interesting account of Central New York by an adept.

Van Hoff, J. H. and **Saunders, A. P.** (*Ber. Ak. Berlin*, 1898).
"Investigation of the Formation-relations of Oceanic Salt Deposits, particularly that of Strassfurt." VII., pp. 387–393. VIII., pp. 487–490. IX., pp. 590–597.

Vater, H. (*Zeit. Kryst. Min.*, vol. xxx., p. 384).
"The Formation of Alkaline Carbonates in Nature."

H. B. W. (*Nature*, lviii., 20).
"Petroliferous Sands and Mud Volcanoes in Burma."

Walker, J. A. (*Min. Col.*, v., p. 155).
"Graphite."

Ward, Thomas (*Tran. Manchester Geol. Soc.*. xxv., p. 530).
"On the Rock-salt Deposits of Northwich, Cheshire, and the Result of Their Exploitation."

Warren, C. H. (*Am. Jour. Sci.*, vi., p. 116).
"Mineralogical Notes." Melanotikite is recorded from Hillsboro, N. M. From analysis, the new formula $(Fe_4O_3)Pb_3(SiO_4)_3$ is obtained. As melanotikite is related so closely to kentrolite, both crystallographically and chemically, the formula $(Mn_4O_3)Pb_3(SiO_4)_3$ is given by the writer for it in place of the old formula. Pseudomorphs, after phenacite, of a mixture of quartz and cookeite from Green-

wood, Me. Remarkably perfect crystals of tapiolite are described from Topsham, Me. Tantalite from Paris, Me., is described crystallographically. A mineral from Boleo, Lower California, supposed to be remingtonite, is shown to be cobaltiferous smithsonite.

Watt, J. A. (*New South Wales, Dept. of Mines and Agriculture, Geol. Sur. Mineral Resources*, No. 4).

"Notes on the Occurrence of Bismuth Ores in New South Wales." The properties of Bi and its ores are described, with a list of its occurrences in New South Wales.

Weibull, Mats. (*Geol. För. Förh.*, vol. xx., p. 57).

"Some Vestana Minerals." 1. Westanite, pyrophyllite and kaolin. 2. Crystals of manganapatite.

—— (*Geol. För. Förh.*, vol. xx., p. 50).

"Mineralogical Notes." 1. Crystallized albite, from Wyberget, S. Dalarne. 2. Oligoclase in chlorite, from Wyberget, S. Dalarne. 3. On ransätite, from Ransäter, Vermland. 4. On the optical and crystallographical properties of fluocerite.

Williams, H. S. (*Min. Col.*, v., 17).

"A Trip to Iceland." Descriptive of the famous zeolite locality visited in the interests of the Geo. L. English Co.

Winchell, N. H. (*Am. Geol.*, xxii., 347).

"Thomsonite and Lintonite from the North Shore of Lake Superior." Lintonite is shown to differ from mesolite or thomsonite on optical grounds, and to be close to jacksonite (prehnite). It, however, differs considerably, chemically, from these. Localities are given.

Winchell, H. V. (*Am. Geol.*, xxii., p. 245).

"On the Occurrence of Cubanite at Butte, Mont." The mineral occurs massive, and is mined for copper to a depth of 200 feet. It is associated intimately with bornite. An analysis gave Cu, 25.35; Fe, 34.90; S, 39.05; SiO_2, .77; Ag, trace.

Wolff, J. E. (*Pro. Am. Acad.*, xxxiii., 429).

"Occurrence of Native Copper at Franklin Furnace, N. J."

V.

LITHOLOGY, ETC.

Bonney, T. G. (*Q. J. Geol. Soc.*, lvi., pp. 291–300).

"On the Garnet-Actinolite Schists of the St. Gothard Pass."

Brauns, R. (*Jahrb. f. Min.*, 1898, vol. ii., 79).

"Diobside (Salite) as an Alteration Product of Palæopicrite, from Medenbach, in Herborn."

Clements, J. M. (*Jour. of Geol.*, vi., 372).

"A Study of Some Examples of Rock Variation."

Cushing, H. P. (*Bul. Geol. Soc. Am.*, ix., p. 239).

"Syenite-porphyry Dikes in the Northern Adirondacks."

Dawson, G. M. (*Bri. Assoc.*, 1897, p. 628).

"Address before the Section of Geology on the Ancient Rocks of North America;" also see other articles by various authors in the same volume on this subject.

Derby, O. A. (*Am. Jour. Sci.*, v., 187).

"Accessory Elements of Itacolumite, and the Secondary Enlargement of Tourmaline." The author describes the granular quartz-rock of the Minas Geraes diamond region of Brazil, which seems to be sedimentary, noting the enlargement of worm tourmaline, the presence of iron and titanium minerals, and the occurrence of worm zircons.

—— and **Branner, J. C.** (*Jour. Geol.*, vi., 366).

"On the Origin of Certain Siliceous Rocks." Following are the theories of the origin of noraculites, jaspilites, etc. 1, mechanical silts; 2, organic silts; 3, chemical precipitates; 4, igneous deposits; 5, replacements of clays; 6, replacements of limestones; 7, replacements of dolomites.

Diller, J. S. (*Bul. U. S. Geol. Sur.*, No. 150).

"The Educational Series of Rock Specimens Collected and Distributed by the United States Geological Survey." A very valuable book for students, dealing with the methods of investigation, modes of occurrence, etc., with numerous examples and plates.

Don, John R. (*Trans. Am. Inst. Ming. Eng.*, xxvii., p. 564).

"The Genesis of Certain Auriferous Lodes." An exhaustive research of great importance, mostly treating of Oceanican examples.

Eakle, A. S. (*Am. Jour. Sci.*, vi., p. 489.)

"A Biotite-tinguaite Dike from Manchester-by-the-Sea, Essex county, Mass."

Flett, J. S. (*Trans. Edinb. Geol. Soc.*, vii., 290).

"A Hypersthene Andesite from Dumyat (Ochils)."

Gemböck, Hermann (*Zeit. Kryst. Min.*, vol. xxix., pp. 305–332).

"Alpine Cordierite-pinite."

Goldschmidt, V. (*Zeit. Kryst. Min.*, vol. xxx., p. 272).

"Lorandite from Allecar, in Macedonia."

Gonnard and Adelphe (*Compt. rend.*, cxxvi., p. 1532).

"Apatite of Certain Granulitic Enclosures of Chuquet-Genestoux."

Hamilton, S. Harbert (*Min. Col.*, v., 24–40.)

"Electric Light on Obscure Points." A review of the assistance rendered to mineralogical science by electric energy.

Hogböm, A. G. (*Bul. Geol. Inst. Upsala*, vol. iii., p. 433).

"Some Mineral Associations." 1, orientated association of quartz and microcline-perthite; 2, graphic-granite with holes in place of quartz; 3, beryl and microcline-perthite in definitely orientated penetration; 4, graphic-like association between quartz and muscovite; 5, graphic-like association between quartz and tourmaline; 6, minerals in lamellar association with calcite; 7, lamellæ of granular quartz penetrating a calcite xld; 8, association of leucite and mica.

Iddings, Jos. P. (*Jour. Geol.*, vi., 219).

"Chemical and Mineral Relationships in Igneous Rocks."

Karsten, Hermann (*Jahrb. f. Min.*, 1898, vol. ii., pt. 1, p. 39).

"Geology of the Island of Capri."

Kilian, W. and **Termier, P.** (*Compt. rend.*, cxxvi., p. 1368).

"Contributions to the Knowledge of the Eruptive Rocks in the French Alps."

—— (*Bul. Soc. G.*, xxvi., 348–357).

"Contribution to the Study of Microdiorites of Brianconnais." "Note on Several Petrographic Types and on the Beds of Some Eruptive Rocks of the French Alps."

Lacroix, A. (*Compt. rend.*, cxxvii., p. 570).

"The Granulitic and Pegmatitic Veins of the Granitic Contacts of the Ariège."

—— (*Compt. rend.*, cxxvii., p. 673).

"Annite Rocks (Limurites) of the Granitic Contacts of the Hautes-Pyrénées."

Martin, G. C. (*Am. Jour. Sci.*, vi., p. 244).

"Occurrence of Dunite in Western Massachusetts." The author records the rare occurrence of a true dunite as an intruded mass.

Michel-Levy (*Bul. Soc. G.*, xxvi., p. 311; *Am. Geol.*, xxii., p. 113).

"On the Classification of the Magmas of the Eruptive Rocks." After considering the various hypotheses and classifications proposed, that of Dr. Hunt is nearly adopted. Magmas are considered to be of two types, alkaline-earthy and ferromagnesian.

Morozewicz, Jozef (*Min. Mitth.*, vol. xviii., p. 105).

"Experimental Investigation of the Formation of Minerals in Magma."

Munteanu-Murgoci, G. (*An. Mus. Geol.*, 1898).

"Contributions to the Petrographical Study of the Rocks of the Central Zone of the Southern Carpathians of Roumania."

Petersen, J. (*Jahrb. f. Min.*, 1898, vol. ii., Pt. 2, p. 156).

"Marekanit-obsidian from Nicaragua."

Poith, G. (*Mem. Ac. Torino*, vol. xlvii., p. 126).

"On the Origin of the Magnesite of Casselette, Val di Susa." The magnesite of this locality is held to be due to the alteration of therzolite.

Pratt, J. H. (*Am. Jour. Sci.*, vi., p. 49).
"On the Origin of the Corundum Associated with the Peridotites in North Carolina." The author considers the corundum to be of undoubted igneous origin with the dunite.

Spring, W. (*Rec. Trav. Chim.*, xvii., p. 202).
"Ferruginous Coloring Matters of Sedimentary Deposits and the Probable Origin of Red Rocks."

Rand, Theo. D. (*Pro. Acad. Nat. Sci.*, 1898, p. 10).
"The Birdsboro Trap Quarries." The rock is considered a diabase. Heulandite and laumontite occur here.

Toothacker, Chas. R. (*Min. Col.*, v. 129).
"On the Formation of Sulphur, etc., in Sicily." A correlation of previous work.

Van Hise, C. R. (*Bul. Geol. Soc. Am.*, ix., pp. 269–328).
"Metamorphism of Rocks and Rock Flowage." An extensive treatise on this important subject emphasizing some new ideas.

Vater, H. (*Vh. G. Deutch. Mat. Ärzte*, 1897, Pt. 2, p. 20).
"The Crystallites." There are definite molecular mixtures of two or more substances, one of which is crystalline and whose power of crystallization influences the mixture's form.

Walker, T. L. (*Am. Jour. Sci.*, vi., p. 410).
"Causes of Variation in the Composition of Igneous Rocks."

Watson, T. L. (*Am. Geol.*, xxii., p. 85).
"Weathering of Diabase near Chatham, Va.

Washington, H. S. (*Am. Jour. Sci.*, vi., p. 176).
"Sölvsbergite and Tinguaite from Essex county, Mass." The author notes these rare rocks from the above locality and discusses their other occurrences.

Wharton, W. J. and Teall, J. J. H. (*Q. J. Geol. Soc.*, lvi., pp. 228–234).
"On Clipperton Atoll and its Phosphatized Trachyte." The interesting phenomenon of a chemical action between deposits of guano and the rock.

Winchell, N. H. (*Am. Geol.*, xxii., p. 299).
"The Origin of the Archean Igneous Rocks."

Zuber, Rudolf (*Zeit. Prakt. Geol.*, Berlin, 1898, pp. 84–94).
"Critical Remarks on the Modern Hypothesis for the Origin of Petroleum."

VI. BIBLIOGRAPHICAL, ETC.

Cauffman, Jos. (*Min. Col.*, v., p. 117).
"Ancient Mineralogy."

Hamilton, S. H. (*Min. Col.*, v., p. 61).
"George Catlin." A brief note on the works and life of Catlin, for whom catlinite was named.

Howe, J. L.

"Bibliography of the Metals of the Platinum Group."

Mathews, Ed. B. (*J. Hop. Univ. Cir.*, xviii., p. 14).

"The First Geological Excursion along the Chesapeake, in 1608." An interesting extract from the report of Capt. John Smith to the London Virginia Company at this early date. Even the over-sanguine Capt. Smith does not seem to have been able to note any natural gift except the fertility of the soil. Mention is made of the various clays (and of mica?).

Mathews, J. A. (*Smi. Misc. Col.*, No. 1090, xxxviii.).

"Review and Bibliography of the Metallic Carbides."

Pierce, C. S. (*Science*, viii., 169–176).

"Note on the Age of Basil Valentine, an analytical review of the time and works of Valentine."

Swerintzew, L.

"A Systematic Bibliography of the Work Done by the Imperial Mineralogical Society of St. Petersburg, etc., from 1885–1895." St. Petersburg, 1898. Crystallography, p. 65. Mineralogy and Petrography, p. 66. Physical Geology, etc., p. 67.

Weeks, F. B. (*Bul. U. S. Geol. Sur.*, No. 156).

"Bibliography and Index of North American Geology, Paleontology, Petrology and Mineralogy for 1897."

Wadsworth, M. E. (*Am. Jour. Sci.*, v., 153 and elsewhere).

"Zirkelite: A Question of Priority." Dr. Wadsworth very justly objects to the use of the name zirkelite for a mineral by Hussak and Prior, owing to its previous adoption by him for a basalt rock in 1887.

VII. NEW BOOKS, APPARATUS, ETC.

Austin, H. E.

"Observation Blanks for Beginners in Mineralogy." Detailed studies of 35 minerals.

Bolas, T.

"Glass Blowing and Working. For Amateurs, Experimentalists and Technicians." This should be a very useful work and one much needed.

Boltwood, B. B. (*Am. Chem. Jour.*, xx., 577).

"On a New Form of Water Blast." This new apparatus is simple and apparently efficient. Full details of construction are given. It will be of great use in blowpiping.

Brush, Geo., and Penfield, Samuel L.

"Determinative Mineralogy, with an Introduction on Blowpipe Analysis." All workers in mineralogy will welcome this 15th edition of this standard work with acclamation.

Clark, Wm. B., et al.

"Maryland Geological Survey," vol. ii. The publications of this survey seem to have reached the acme of perfection. The following parts will be found of especial interest to mineralogists: "The Building and Decorative Stones of Maryland," a manual of the greatest value on the subject treated. "The Maps and Map Makers of Maryland," an interesting account of the history and methods.

Congdon, Ernest A.

"Qualitative Analysis." Qualitative analysis is always an excellent method for mineral identification, and a work of this well-known teacher is especially welcome.

Cox, S. H.

"Prospecting for Minerals." "A Practical Handbook." J. B. Lippincott Co., Philadelphia.

Dana, Ed. S.

"A Text-Book of Mineralogy, with an Extended Treatise on Crystallography and Physical Mineralogy." This last edition of this well-known work brings it right up to date.

Goldsmith, V. (*Zeit, Kryst. Min.*, 1898, vol. xxix., p. 333).

"The Two-Circle Goniometer and its Adjustment."

—— (*Zeit. Kryst. Min.*, 1898, vol. xxix., p. 589).

"A Goniometer to Measure Large Crystals."

Groth, P.

"Tabellarische Uebersicht der Mineralien nach ihren krystallographisch-chemischen Beziehungegeordnet." A fourth edition of this well-known work which is most welcome.

Jaggar, T. A., Jr. (*Zeit. Kryst. Min.*, vol. xxix., p. 262).

"A Microsclerometer for Hardness Determination."

Kelley, Jay G.

"The Boy Mineral Collectors." Written in the form of a story for the young.

Leiss, C. (*Jahrb. f. Min.*, 1898, vol. ii., p. 64).

"Communications from the R. Fuess'schen Workshops." 1, theodolite-goniometer; 2, total reflectometer. Turning-polarizer for microscope, etc.

—— (*Zeit. Kryst. Min.*, vol. xxx., p. 357).

"A New Total Reflection Apparatus."

Linde, A. J.

"Hints in the Use of the Handy Lapidary's Lathe." A neat, concise statement of the use of this very useful instrument, which every one interested needs.

Muthmann, W. (*Zeit. Kryst. Min.*, vol. xxx., p. 73).

"Heavy Liquid for Separating Minerals." Acetylenetetrabromide is made by passing C_2H_2 into Br, and has sp. gr. 3.0011. It does not act chemically on minerals, is stable and cheap.

Nicolls, W. J.

"The Story of American Coals."

Roscoe, H. E., and Schoriemmer, C.
"Treatise on Chemistry." The second volume, dealing with metals, is completed.

Rothwell, R. P.
"The Mineral Industry, its Statistics, Technology and Trade in the United States and other Countries, to the end of 1897." Vol. vi., supplementing i.–v.

Salisbury, R. D., and Vermeule, C. C. (*Geological Survey of New Jersey*, final report, iv.).
"The Physical Geography of New Jersey."

Shaler, M. S.
"First Book of Geology." The excellency of the former introductory works of this author will without doubt put this volume in high favor, as it so justly deserves.

Smock, J. C., et al.
"Annual Report State Geologist" of New Jersey.

Travis, J., et al.
"Annual Report of the Secretary for Mines and Water Supply" of Victoria.

Weinschenk, E. (*Zeit. Kryst. Min.*, vol. xxx., p. 67).
"A New Arrangement of the Condenser on the Polarization Microscope."

VIII. LIST OF PERIODICALS REVIEWED.*

Arc. Sci. Phy. Nat.—Archives des Sciences Physiques et Naturalles, Genève, Switzerland.

Am. Chem. J.—American Chemical Journal, Baltimore, Md.

Am. Geol.—American Geologist, Minneapolis, Minn.

Am. Jour. Sci.—American Journal of Science, New Haven, Conn.

An. Soc. C. Argentina.—Analie Sociedad Cientifica Argentina, Buenos Aires.

An. Mus. Geo.—Anuarulei Museului de Geologia si de Paleontogogia, Bucuresti (Bucharest, Roumania).

Ann. Mines.—Annales des Mines, Paris, France.

Ann. Mus. Wien.—Annalen des K. K. naturhistorischen Hofmuseums, redigirt von Dr. Franz Ritter von Hauer, Vienna, Austria.

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* As nearly as possible, all the periodicals likely to contain references to mineralogical matters were consulted. Only those published in 1898 and accessible in Philadelphia at the first of 1899 have been consulted.

Many volumes examined contained nothing of sufficient interest to abstract, and are not recorded in this list.

The Bibliographies of Drs. Dana, Scudder and Bolton have been of considerable service.

All the articles have been consulted first-hand except where so noted—as [*Spencer*] from the *J. Chem. Soc.*

Arch. Mus. Hist. Nat.—Nouvelles Archives du Museum D'Histoire Naturelle, Paris, France.

Att. Acc. Torino.—Atti della Reale Accademia delle Scienze, Turin, Italy.

Att. Soc. Tosc.—Atti della Societa Toscana di Scienze Naturali, Pisa, Italy.

Ber. Ak. Berlin.—Monatesberichte der K. preuss. Akad. der Wissenschaften zu Berlin, Germany.

Bihang Ak. Stockh.—Bihang Till Kongl. Svenska Vetenskaps-Akademiens Handlingar, Stockholm, Sweden.

Bul. Acad. Belg.—Bulletin de l'Académie Royale de Belgique, Bruxelles, Belgium.

Bul. Acad. St. Pet.—Bulletin scientifique de l'Acad. Impériale des Sciences de St. Pétersburg, Russiâ.

Bul. Geol. Inst. Upsala.—Bulletin of the Geological Institution of the University of Upsala, Sweden.

Bul. Geol. Soc. Am.—Bulletin of the Geological Society of America.

Bul. Mus. Com. Zoo.—Bulletin of the Museum of Comparative Zoölogy, Cambridge, Mass.

Bul. Mus. d'Hist. Nat.—Bulletin du Muséum D'Histoire-Naturelle, Paris, France.

Bul. Mus. U. of Pa.—Bulletin of the Museum of Science and Art, University of Pennsylvania, Philadelphia, Pa.

Bul. Soc. Ch.—Bulletin mensuel de la Société Chimique de Paris, France.

Bul. Soc. G.—Bulletin de la Société Géologique de France, Paris, France.

Bul. Soc. Imp. Nat. Moscow.—Bulletin de la Société Imperiale des Naturalistes de Moscow, Russia.

Bul. Soc. Min.—Bulletin de la Société Minèralogique de France, Paris, France.

Bul. U. S. Geol. Sur.—Bulletin of the United States Geological Survey, Washington, D. C.

Chem. News.—Chemical News, London, England.

Compt. rend.—Comptes Rendus des Séances de l'Académie des Sciences, Paris, France.

Cor. Nat. Ver. Riga.—Korrespondenzblatt des Naturforschenden Vereins zu Riga.

Eng. Ming. Jour.—Engineering and Mining Journal, New York City, N. Y.

Forh. Vid. Selsk. Christiania.—Forhandlinger i Videnskabs-Selskabet i Christiania, Denmark.

Geol. För. Förh.—Geologiska Föreningens i Stockholm Förhandlingar, Stockholm, Sweden.

Geol. Mag.	Geological Magazine, London, England.
Jahrb. f. Min.	Jahrbuch für Mineralogie, Geognosie, Geologie, und Petrefaktenkunde, Heidelberg.—Neues-Jahrbuch für Mineralogie, Geologie und Palæontologie, Stuttgart, Germany.
Jb. Ges. Vat. Cul.	Jahresberichte des Schlesische gesellschaft für vaterländische cultur (Naturwissenschaften Sectien), Breslau, Germany.
Jour. Am. Chem. Soc.	Journal American Chemical Society, Easton, Pa.
Jour. Geol.	Journal of Geology, Chicago, Ill.
J. Chem. Soc.	Journal of the Chemical Society of London, England.
J. Frank. Inst.	Journal of the Franklin Institute of the State of Pennsylvania, Philadelphia, Pa.
J. Hop. Uni. Cir.	Johns Hopkins University Circular, Baltimore, Md.
Mem. Acc. Torino.	Memorie della reale Accademia delle Scienze di Torino (Turin), Italy.
Min. Col.	Mineral Collector, New York.
Min. Mag.	Mineralogical Magazine and Journal of the Mineralogical Society of Great Britain and Ireland, London and Truro.
Min. Mitth.	Tschermak's Mineralogische und Petrographische Mittheilungen, Wien (Vienna), Austria.
Mitt. Nat. N. V. Rügen.	Mittheilungen Naturwissenschaftlicher Verein von Neu-Vorpommern und Rügen, Berlin, Germany.
Nature.	Nature, London, England.
Nachr. K. Ges. Wis. Göt.	Nachrichten von der Königl. Gesellschaft der Wissenschaften zu Göttingen (Mathematisch-physikalische Klasse), Göttingen, Germany.
Pop. Sci. Mon.	Popular Science Monthly, New York.
Pro. A. A. A. Sci.	Proceedings of the American Association for the Advancement of Science, Salem, Mass.
Pro. Acad. Nat. Sci.	Proceedings of the Academy of Natural Sciences of Philadelphia, Pa.
Pro. Am. Acad.	Proceedings of the American Academy of Arts and Sciences, Boston, Mass.
Pro. Am. Phil. Soc.	Proceedings of the American Philosophical Society, Philadelphia, Pa.
Pro. Phil. Soc. Glasgow.	Proceedings of the Philosophical Society of Glasgow, Scotland.
Pro. Yorkshire Geol. Soc.	Proceedings Yorkshire Geological and Polytechnic Society, England.
Pro. U. S. Nat. Mus.	Proceedings United States National Museum, Washington, D. C.
Q. J. Geol. Soc.	Quarterly Journal of the Geological Society, London, England.

Rec. Geol. Sur. N. S. W.—Record Geological Survey of New South Wales.

Rep. Bri. Assoc.—Reports of the British Association for the Advancement of Science.

Riv. Min.—Revista di Mineralogia e Cristallograpia Italiana diretta da R. Paulbianco, Padua, Italy.

Sch. Mines Qr.—School of Mines Quarterly, Columbia University, New York.

Science.—Science, New York.

Sci. Am.—Scientific American, New York.

Sci. Am. Sup.—Scientific American Supplement, New York.

Smi. Misc. Col.—Smithsonian Miscellaneous Collection, Washington, D. C.

Sitz. Nat. Ges. Isis.—Sitzungsberichte des Naturwissenschaftliche gesellschaft Isis, Dresden, Saxony.

Sitz. Ges. Wiss. Prag.—Vestnik královské Ceskė Spolecnosti náuk. Trida mathematicko-Prirodovedecka-Sitzungsberichte der königl. böhmischen Gesellschaft der Wissenschaften. Mathematisch-Naturwissenschaftliche Classe, Prague, Austria.

Trans. Am. Inst. Ming. Eng.—Transactions of the American Institute of Mining Engineers, New York.

Trans. Edinb. Geol. Soc.—Transactions of the Edinburgh Geological Society, Edinburgh, Scotland.

Trans. Manchester Geol. Soc.—Transactions of the Manchester Geological Society, Manchester, England.

Trans. N. Z. Inst.—Transactions of the New Zealand Institute, Wellington, New Zealand.

Vh. G. Deutch Nat. Ärzte.—Verhandlungen der Gesellschaft Deutscher Naturforscher und Ärzte.

Vh. G. Reichs.—Verhandlungen der kaiserlich-königlichen geologischen Reichsanstalt, Vienna, Austria.

Vh. Min. Ges.—Verhandlungen d. russisch-kaiserlichen mineralogischen Gesellschaft zu St. Petersburg, Russia.

Vh. V. Bef. Gew.—Verhandlungen des Vereins zur Beförderung des Gewerbfleisses, Berlin, Germany.

Y. Tid. Ant. Geog.—Yemer. Tidskrift utgisven af. Svenska Sällskafet für Antropologi och Geografi, Stockholm, Sweden.

Zeit. Kryst. Min.—Zeitschrift für Krystallographie und Mineralogie, Leipzig, Germany.

Zeit. f. Prakt. Geol.—Zeitschrift für praktische Geologie, Berlin, Germany.

BULLETIN

OF THE

AMERICAN INSTITUTE OF MINING ENGINEERS.

Number 11.

NOT INCLUDED IN ANNUAL VOLUME OF TRANSACTIONS.

The Progress of Mineralogy in 1899.

AN ANALYTICAL CATALOGUE OF THE CONTRIBUTIONS TO THAT SCIENCE PUBLISHED DURING THE YEAR.

BY

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ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA,

AND

JAMES R. WITHROW,
PHILADELPHIA, PENNSYLVANIA.

NEW YORK CITY:
PUBLISHED BY THE INSTITUTE.
AT THE OFFICE OF THE SECRETARY.
1900.

THE issue by the Institute of "Bulletins," of which this is the second, has been dictated by the necessity of confining within certain limits the size of the annual volumes of *Transactions*. These Bulletins will be distributed to members free, like other papers, and extra copies will be printed for sale at the Secretary's office. It is not proposed to issue them at stated times, nor will they be necessarily confined to a special character, such as bibliographic catalogues, like the present, although, obviously, such catalogues, being of value to special classes of students, are likely to be chosen for this purpose, if circumstances require the omission from the regular volume of any accepted material.

R. W. RAYMOND,
Secretary.

Secretary's Office,
99 John St., New York City.

[BULLETIN OF THE AMERICAN INSTITUTE OF MINING ENGINEERS.]

The Progress of Mineralogy in 1899.

An Analytical Catalogue of the Contributions to that Science Published during the Year, and Supplementing the one for 1898.

BY S. HARBERT HAMILTON AND JAMES R. WITHROW, PHILADELPHIA, PA.

INTRODUCTORY NOTE.—In transmitting this work to the Institute, we desire to state that it makes no claim to perfection or completeness, but that it is an attempt, in a small way, to make the original articles contributed to the science of mineralogy more accessible to those interested. While we are cognizant of the fact that such a compilation cannot be free from more or less serious errors, yet we venture to hope that the all too brief time which it was possible to devote to its compiling may not have been wasted. The amount of literature contributed during a single year has become so vast that some method of indexing is essential to those who would keep informed. In the present instance, the material collected is only that received in Philadelphia prior to the beginning of 1900, to which has been added that which last year was either overlooked or not accessible to us in time for insertion in Bulletin No. 1.

In conclusion, we would say that we are indebted to many persons for courteous assistance and advice, but that we are under especial obligation to Mr. Alfred Rigling, Librarian of the Franklin Institute and Dr. Edward J. Nolan, of The Academy of Natural Sciences of Philadelphia.

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ERRATA

For Bulletin No. 1, American Institute of Mining Engineers.

Page 8, thirteenth line from bottom, for "**Gazzetta xxvi.**," read "Gaz. Ch. Ital., xxviii."

Page 11, top line, for "Jahrb. f. Min., vol. xi.," read "Jahrb. f. Min. Beilageband., xi."

Page 13, fifteenth line from bottom, for "Breunergweiss," read "Brennergneiss."

Page 14, first line from top, for "p. 23," read "p. 33;" thirtieth line from bottom, for "p. 234," read "p. 1 and p. 234."

Page 24, seventh line from bottom, for "lvi., pp. 291–300," read "liv., p. 357."

Page 24, fourth line from bottom, for "Diobside" read "Diopside."

Page 25, thirtieth line from bottom, for "noraculites," read "novaculites."

Page 26, twelfth line from bottom, for "xviii., p. 105," read "xviii., p. 1 and p. 105."

The following authors' names have been misspelled in the number: "Tennier" should read "Termier," and "Van Haff" read "Van't Hoff."

I.

NEW SPECIES, ETC.

Artini, E., and Melzi, G. (*Ren. Inst. Lomb.*, xxxi., p. 983).

"Concerning a Meteorite which fell at Ergheo Presso Brava (Penisola dei Somali)." It is a stone with sp. gr. 3.3. Analysis gave Fe, 0.57; Ni + Co, 0.17; SiO_2, 23.69; FeO, 12.95; Al_2O_3, 0.56; CaO, 0.71; MgO, 18.59; FeS, 9.48. 32.73 per cent. of the whole was insoluble in HCl; this gave—SiO_2, 57.62; FeO, 12.79; Al_2O_3, 5.11; CaO, 1.13; MgO, 23.06; $Na_2O + K_2O$, 0.41.

Arzruni, Andreas; Thaddeeff, Konstantin; Dannenberg, A. (*Zeit. Kryst. Min.*, xxxi., p. 229).

"New Minerals from Chili." *Arzrunite*, sp. nov. (Dannenberg) is from Challacollo, Tarapaca, Chili. Occurs in hexagonal prisms of a blue color. Crystallization—orthorhombic $a:b:c = 0.5773:1:0.4163$. Formula: $PbSO_4, PbO + 3(CuCl_2, H_2O) + Cu(OH)_2$.

Stelznerite, sp. nov., comes from Vallinar, Chili, where it is found in green crystals. Sp. gr., 3.884. Orthorhombic, $CuSO_4, 2Cu(OH)_2$.

Rafaelite, sp. nov., occurs with the above in needles of violet-red color. It is considered an oxychloride of lead.

Utahite occurs in rhombohedral crystals. Analysis gives the formula $Fe_2O_3,SO_3 2H_2O$, which differs from the formula of the Utah mineral. It is found at Taltal, Chili.

NOTE.—For list of papers cited see page 65.

Brochantite, from Paposa, Chili, gives on analysis the formula. $CuSO_4,3Cu(OH)_2$. A new basic carbonate of bismuth is described from Schneeburg, Saxony; it is probably tetragonal—$5Bi_2O_3,H_2O,$-CO_2.

Benedicks, Carl (*Bul. Geol. Inst. Upsala*, iv., p. 1).

"Thalénite," a new mineral from Osterby, in Dalekarlien, Sweden. Occurs with allanite, gadolinite and fluocerite in quartz, in monoclinic crystals, and massive. Cleavage, none; sp. gr., 4.227; H., 6.5. Optically, —. Analysis = SiO_2, 30.89; Y_2O_3, 63.91; $Fe_2O_3 + Al_2O_3$, 0.25; CaO, 0.37; MgO, 0.10; Na_2O, 0.36; SnO_2, 0.19; H_2O, 1.54; He+N, 1.96. Thalénite is near yttrialite, rowlandite and kainosite in sp. gr. and chemical composition, and near laumontite in crystal form.

Broeck, Vansden (*Bul. Geol. Belg.*, x., p. 63).

"The Meteorite of Lesves, near Fosses, Belgium." This stone, which is of the usual chondrite type, fell April 13, 1896.

Cohen, E. (*Vid. Skr. Chri.*, 1898, No. 7).

"The Meteoric Irons of Morredal, Norway." An ataxite with nickel iron, 98.12; schreibersite, 1.17; iron sulphide, 0.55; daubréelite, 0.16; sp. gr. 7.8543. Analysis: Fe, 79.67; Ni, 18.77; Co, 1.18; Cu, 0.06; Cr, 0.06; P, 0.18; S., 0.27.

—— (*Mitt. Nat. N. V. Rügen*, xxxi, p. 50).

"The Meteoric Iron from Quesa, Province of Valencia, Spain." Fe, 88.73; Ni + Co, 10.85; P, 0.15. An octrohedral iron.

—— (*Ber. Ak.*, Berlin, 1898, p. 607).

"A New Meteorite from San Cristobal, Antofagasta, Chili." This iron is different from most recorded meteorites, but belongs near the Oktibbeha iron, on account of its high nickel content. Analysis: Fe, 73.72; Ni, 25.6; Co, 1.00; P, 0.18; sp. gr. 7.8593.

Crookes, Wm. (*Chem. News*, lxxx., p. 49).

"On Victorium, a New Element Associated with Yttrium." The new element previously called monium is changed to victorium. Its atomic weight is 117. Victoria is Vc_2O_3.

Cumenge, M. (*Bul. Soc. Min.*, xxii., p. 25).

"Von Diestite, a New Mineral." Occurs at the Hamilton Mine, Colorado. It is a telluride of silver and bismuth. Analysis gives: Te, 34.6; Bi, 16.31; Ag, 40.25; Au, 4.30; Pb, 2.25; S, 0.54; insol., 0.54 = 98.79.

Daly, R. A. (*Pro. Am. Acad.*, xxxiv, p. 433).

"On a New Variety of Hornblende."

—— (*Bul. Soc. Min.*, xxii., p. 144.)

"On a New Variety of Hornblende." It is named philipstadite, from the locality—Philipstad. Analysis: SiO_2, 45.20; TiO_2, 0.84; Al_2O_3, 7.34; Fe_2O_3, 7.55; FeO, 15.80; MnO, 1.52; CaO, 12.30; MgO, 8.40; Na_2O, 0.80; K_2O, 0.37; ignition, 0.70.

Denison, Chas. Hyde (*Min. Col.*, vi., p. 164).

A new "Japanese Meteorite." A preliminary notice of a siderolite from Miura, Kamakura, Japan.

Derby, O., A. ET. AL. (*Arch. Mus. Janeiro*, ix., p. 89).

"The Meteorite from Bendegó."

Fletcher, L. (*Min. Mag.*, xii., p. 167).

"On a Mass of Meteoric Iron from the Neighborhood of Caperr, Rio Senguerr, Patagonia." Analysis gave: Fe, 89.87; Ni, 9.33; Co, 0.53; P, 0.24; Cr, trace; Cu, trace; S, *nil* = 99.97.

Foote, W. M. (*Am. Jour. Sci.*, viii., p. 153).

"Note on a New Meteoric Iron Found Near the Tombigbee River, in Choctaw and Sumter Counties, Alabama." Analysis by Whitfield gives: Fe, 95.02; Ni, 4.11; Co, 0.40; P, 0.324; C, 0.161; S, trace.

—— (*Am. Jour. Sci.*, viii., p. 415).

"Note on a New Meteoric Iron Found Near Iredell, Basque County, Texas, U. S. A." Etching develops but small pits in the plessite. The iron contains a large amount of schreibersite. Analysis gives: Fe, 93.75; Ni, 5.51; Co, 0.52; P, 0.20; S, 0.06 = 100.04.

Friedel, Chas., and Cumenge, E. (*Compt. Rend.*, cxxviii., p. 532); (*Bul. Soc. Min.*, xxii., p. 26).

"Carnotite, a New Uranium Mineral." This compound occurs in Montrose county, Colorado, with malachite and chessylite in yellow, friable masses. It is microcrystalline, with no definite crystals. Formula: $2U_2O_3,V_2O_5,K_2O + 3H_2O$. It also contains the new elements radium and polonium. See also (*Bul. Soc. Ch.*, xxi., p. 328); (*Chem. News*, lxxx, p. 16).

Hobbs, W. H. (*Am. Jour. Sci.*, vii., p. 357); (*Zeit. Kryst. Min.*, xxxi., p. 417).

"Goldschmidtite, a New Mineral." Monoclinic, Au_2AgTe_6. H.2. Sp. gr. 8.6. Occurs at Gold Dollar Mine, Cripple Creek District, Colorado. It forms a homologous series, thus: calerverite, goldschmidtite and sylvanite. It is tabular in habit.

Hutchinson, A. (*Phil. Mag.*, xlviii., p. 480).

"On Stokesite, a New Mineral from Cornwall." Known from a single prismatic crystal. $a:b:c: = 0.3479:1:0.8117$. Sp. gr. 3.185. H.6. Composition—a hydrated silicate of sodium and calcium with 6 per cent. of tin, which replaces silica.

Lienâu, Hermann (*Chem. Ztg.*, 1899, xxiii., p. 48).

"Manganese Silico-carbonates from Hautes-Pyrénées." Two new species of this rare group are described from Ville-Aure, France.

Viellaurite is a massive, dark-gray mineral, becoming black on exposure. Soluble in acids with gelatinization. Sp. gr. 3.7. Formula, $5MnCO_3,2Mn_2SiO_4$.

Torrensite is a compact mineral of light sepia color. Sp. gr. 3.62. Formula, $MnSiO_3$,$MnCO_3$,½H_2O.

Link, Gottlob E. (*Ann. Mus. Wien.*, xiii., p. 103).

"Meteorite from Meuselbach, Thuringia." Is is a hypidomorphic granular stone, consisting of olivine, bronzite, nickel-iron, troilite, colorless glass, chromite, brownish glass, and an undetermined cubic mineral. Analysis: SiO_2, 40.23; Al_2O_3, 2.85; $FeO + Fe_2O_3$, 15.82; MgO, 24.98; CaO, 2.44; Na_2O, 1.58; K_2O, trace; FeS, 5.76; chromite, 0.35; nickel-iron, 7.78.

Melikoff, P., and Krschischanowsky, W. (*Ztschr. anorgan. Chem.*, 1899, xix., p. 11); [*Chem. Ztg.*, 1899, No. 2 (Rep., p. 9)].

"Chemical Analysis of the Meteorite from Migheja, Russia."

Melnikow, P. G. (*Journ. russ. phys.-chem. Ges.*, 28, Lief. 1, 114; Lief. 3, 299–307); (Hazard, *Chem. Centr.-Blatt.*, 1899, ii., p. 270).

"Investigation of a Meteorite which fell in the Government of Miusk." It consists of—

Anorthite,	23.3	per cent.
Bronzite,	74.36	"
Troilite,	1.32	"
Chromite,	0.56	"
Nickel-iron,	0.32	"

Melnikoff, Michael P., and Nikolaeeff, Petr D. (*Zeit. Kryst. Min.*, xxxi., p. 505, from *Vh. Min. Ges.*, xxxv. protokolle, pp. 11–13).

"Loranskite, a New Mineral." Loranskite is a massive, black mineral from near Imbilax, Finland. H.5; sp. gr. 4.162. Analysis gives: Ta_2O_5, 47.00; Y earths, 10.00; CeO, 3.00; CaO, 3.30; Fe_2O_3, 4.00; ZrO_2, 20.00; loss on ignition, 8.15; S, Ti and Mn are present.

Muthmann, W., and Schroder, E. (*Zeit. Kryst. Min.*, xxix., p. 140).

"The Composition of Some Tellurium Minerals." A new mineral, Grünlingite, from Cumberland, England. Formula $= Bi_4S_3Te$. Hexagonal. Sp. gr. 7.321.

Penfield, S. L., and Warren, C. H. (*Am. Jour. Sci.*, viii., p. 339).

"Some New Minerals from the Zinc Mines at Franklin, N. J., and Note concerning the Chemical Composition of Ganomalite."

Hancockite is a new monoclinic mineral, in habit like epidote. H. 6–7. Sp. gr. 4.03. In composition near epidote and piedmontite. Analysis: SiO_2, 30.99; Al_2O_3, 17.89; Fe_2O_3, 12.33; Mn_2O_3, 1.38; PbO, 18.53; MnO, 2.12; MgO, 0.52; CaO, 11.50; SrO, 3.89; H_2O, $1.62 = 100.77$.

Glaucochroite, a new orthorhombic mineral belonging to the chrysolite group. H.6. Sp. gr. 3.407. Analysis: SiO_2, 31.48; MnO, 38.00; CaO, 28.95; PbO, 1.74, which equals $CaMnSiO_4$.

Nasonite, a new tetragonal (?) mineral, near ganomalite in form and composition. Analysis: SiO_2, 18.47; PbO, 65; CaO, 11.20; MnO, 0.9; ZnO, 0.84; FeO, 0.1; Cl, 2.8; (OH), 0.26 = 100.41. Formula: $(Ca,Pb)_{10}Cl_2Si_6O_{21}$. The composition of the diorthosilicates are discussed, of which ganomalite and nasonite are members, and it is suggested to change the name to mesosilicates, from μέσος, middle. The acids would then be:

Orthosilicic acid, ...	$H_8Si_2O_8$.
Mesosilicic acid, ...	$H_6Si_2O_7$.
Metasilicic acid, ...	$H_4Si_2O_6$.

Leucophœnicite, a new monoclinic (?) mineral, in composition a basic orthosilicate of manganese, thus: $Mn_5\,(Mn.OH)_2(SiO_4)_3$, which resembles humite structurally, but carries no flourine.

—— and **Foote, W. W.** (*Zeit. Kryst. Min.*, xxx., p. 587).

"Clinohedrite, a New Mineral from Franklin Furnace, N. J."

Rogers, Austin F. (*Kan. Uni. Quar.*, viii., p. 105).

"Cupro-Goslarite, a New Variety of Zinc Sulphate." The mineral is found in an old mine as an alteration product of sphalerite and chalcopyrite. It is translucent; light greenish-blue in color. H. 2. Loses water in the air. Is soluble in water. Analysis gives $ZnSO_4$, 45.16; $CuSO_4$, 12.48; $FeSO_4$, 0.27; H_2O, 41.76; Insol, 0.58. = 100.25.

Smith, G. T. Herbert and **Prior. G. T.** (*Min. Mag.*, xii., p. 102).

"On Some Lead Minerals from Laurium, namely, **Laurionite**, Phosgenite, Fiedlerite, and (new species) Paralaurionite." The physical properties of the above minerals are fully described. The new mineral, Paralaurionite PbClOH is the same as laurionite in composition, but is monoclinic (Pseudo-rhombic). Axial ratios = a:b:c = 0.8811 : 1 : 0.6752.

—— (*Min. Mag.*, xii., p. 183).

"Note on the Identity of Paralaurionite and Rafaelite." The physical character including the angles of paralaurionite and rafaelite are almost identical. Rafaelite has not been examined quantitatively, but the chemical composition is likely identical. [See Arzruni, *et al.*, p. 2.]

Thugutt, St. J. (*Anz. Akad. Wissensch Krakau.*, 1899, No. iv. p. 168); [*Chem.-Ztg.*, 1899, No. 50 (Rep., p. 181)].

"Zeagonite, a New Decomposition Product of Nepheline."

Ward, H. L. (*Am. Jour. Sci.*, viii., p. 412).

"Notice of an Areolite that Recently Fell at Allegan, Michigan." It is a chondritic stone of sp. gr. 3.558.

—— (*Am. Jour. Sci.*, vii., p. 233).

"A New Kansas Meteorite." A stone weighing 419 gr.; found in Ness County, Kansas.

—— (*Am. Jour. Sci.*, viii., p. 225).

"Notice of a New Meteorite from Murphy, Cherokee County, N. C." A siderite, showing Neumann lines, troilite and daubreelite.

—— (*Min. Col.*, v., p. 39, p. 59).

"A Trip After Meteorites." Interesting notes on the meteorites and meteorite collections of Europe, with a preliminary description of a new siderolite from Veramin, Persia.

Weinschenk, E. (*Min. Mitth.*, xvii, p. 567).

"On a New Constituent of Some Meteorites."

Wolff, John E. (*Pro. Amer. Acad.*, xxxiv., p. 479); (*Zeit. Kryst. Min.*, xxxii., p. 1).

"On Hardystonite, a New Calcium-Zinc Silicate, from Franklin Furnace, New Jersey." Tetragonal, 2CaO, ZnO, $2SiO_2$. Sp. gr., 3.396. H, 3–4. Analysis: SiO_2, 38.10; ZnO, 24.30; MnO, 1.50; CaO, 33.85; MgO, 1.62; Fe_2O_3, 0.57; Ign., 0.52.

Zamborini, Ferruccio (*Zeit. Kryst. Min.*, xxxii., p. 157).

"On Two New Hydrosilicates." Müllerite, a new iron-hydrosilicate from Montrou, in Dordogne, France. Occurs as a yellowish-green coating on manganese. Sp. gr., 1.97. Analysis gives SiO_2, 48.82, Fe_2O_3, 35.88; Al_2O_3, 4.30; MgO, 0.35; MnO, 0.63; H_2O, 9.66; which gives the formula Fe_2O_3, $3SiO_2+2H_2O$. Melite, a new aluminium-iron hydro-silicate from Thüringa, accompanied by schrötterite. Occurs in bluish-brown prismatic crystals. H. 3. Sp. gr., 2.18. Analysis gives SiO_2, 14.97; Al_2O_3, 35.24; Fe_2O_3, 14.90; CaO, 0.78; H_2O, 33.75.

II.

CHEMICAL MINERALOGY.

Baskerville, Chas. (*Jour. Am. Chem. Soc.*, xxi., p. 706).

"The Occurrence of Vanadium, Chromium and Titanium in Peats.." The ash of three peats from North Carolina gave TiO_2, 0.49, 0.34 and 0.491; Cr_2O_3, 0.0283, 0.0343 and 0.0355; Va_2O_5, 0.00107; 0.0026 and 0.0031.

—— (*Jour. Am. Chem Soc.*, xxi., p. 1099).

"On the Universal Distribution of Titanium."

Becke, F. (*Min. Mitth.*, xviii., p. 94).

"Chemical Analyses from the University of Prague." Leucite Basanite from Vesuvius gave SiO_2 48.99; Al_2O_3, 19.82; Fe_2O_3, 2.59; FeO, 5.26; CaO, 8.13; MgO, 2.82; Na_2O, 3.17; K_2O, 9.06; P_2O_5, 0.33. Tonalite gneiss gave SiO_2, 63.09; Al_2O_3, 18.89; Fe_2O_3, 3.48; FeO, 2.02; MgO, 1.97; CaO, 6.18; Na_2O, 3.14; K_2O, 1.30; ignition, 0.63.

Benedicks, C. (*Öfv. Ak. Stockh.*, 1899, p. 717).

"Contribution to the Study of Gadolinium." An extensive chemical investigation of this rare element derived from samarskite. Atomic weight = 156.38. Many salts of Gadolinium were prepared and studied.

Bischof, C. (*Sprechsaal*, 1899, xxxii, p. 547); [*Chem. Ztg.*, 1899, 60 (*Rept.*, p. 216)].

"French Beauxite." Material dried at 100° C. gave Al_2O_3, 78.75; SiO_2, 17.78; Fe_2O_3, 1.11.

Bonjeau, Ed. (*Bul. Soc. Ch.*, xxi, p. 691); (*Chem. News*, xxc., p. 247).

"Chemical Analysis of Rocks; Determination of Potassium and Sodium." The method of procedure and the results of the analysis of several intrusive rocks are given.

—— (*Compt. rend.*, cxxviii., p. 1096).

"Chemical Analysis of Some Volcanic Rocks Arising from the Peripheral Cracking of Mt. Dore." Eleven analyses are given of phonolites, trachytes, tephrites and basalt.

Bourgeois, L. (*Bul. Mus. d'Hist. Nat*, 1898, p. 297).

"On a Basic Chlorate of Copper."

—— (*Bul. Mus. d'Hist. Nat.*, 1898, p. 118).

On the Crystallized Phosphates of Uranium."

Broockmann (*J. F. Gastel*, xlii., p. 764). (*Chem. Centr. Blatt.*, 1899, ii., p. 1064. Düstertehn).

"On the Gases Enclosed in Anthracite."

Brugnatelli, L. (*Zeit. Kryst. Min.*, xxxi, p. 55).

"On an Interesting Mineral Association at the Asbestus Mine of Val Lanterna (Veltlin)." Aggregations are described which consist of magnesite, dolomite and aragonite. It is shown that the crystals of magnesite were first deposited, then the dolomite and finally aragonite.

Bütschli, O. (*Zeit. Kryst. Min.*, xxxi., p. 277).

"On the Solubility of Sulphur in Water and Glycerin."

Cecchi-Mengarini, Ettore (*Gaz. Ch. Ital.*, xxix., p. 460),

"On Some Italian Petroleums."

Clarke, F. W. (*Am. Jour. Sci.*, viii., p. 111).

"The Constitution of Tourmaline." In a discussion of Penfield's and Foote's work the author calls attention to the close similarity of the acid of tourmaline, thus: Penfield and Foote, $H_{16\frac{1}{2}}Al_{4\frac{1}{2}}B_3Si_6O_{31\frac{1}{2}}$; Clarke, $H_{14}Al_5B_3Si_6O_{31}$.

——and **Steiger, G.** (*Am. Jour. Sci.*, viii., p. 245).

"Experiments Relative to the constitution of Pectolite, Pyrophyllite, Calamine and Analcite."

—— and **Darton, M. H.** (*Am. Jour. Sci.*, vii., p. 365).

"Hydromica from New Jersey." A mineral from Rocky Hill gave on analysis: SiO_2, 32.72; TiO_2, 0.24; Al_2O_3, 8.41; Fe_2O_3, 19.99; FeO, 4.24; CaO, 10.30; MgO, 5.51; K_2O, 0.85; Na_2O, 0.63; CO_2, 8.21; H_2O at 100°, 2.47; H_2O above 100°, $6.22 = 99.79$. It is suggested that this may represent a ferric muscovite altering to a vermiculite.

Clowes, Frank (*Pro. Roy. Soc.*, lxiv., p. 374); (*Chem. News*, lxxix., p. 109).

"Deposition of Barium Sulphate as a Cementing Material of Sandstone."

Cohen, Emil W. (*Ann. Mus. Wien.*, xiii., p. 118).

"Studies of Meteoric Irons, viii." A summary of the literature and a description of the following irons are given.

	Nickel Iron.	Nickel Iron Phosphide.	FeS.	Sp. gr.
Campo del Cielo, Argentina, . .	98.69	1.17	0.14	7.7679
Siratik, Senegal, West Africa, .	98.21	1.68	0.11	7.7752
Santa Rosa, Colombia, . . .	97.55	2.34	0.11	7.6896
Tocavita, " . . .	98.42	1.42	0.16	7.8504
Rasgata, " . . .	97.97	1.81	0.22	7.6540
Linnville Mtn., Burke Co., N. C. .	98.46	1.49	0.05	7.4727
Chesterville, Chester Co., S. C. .	97.72	2.20	0.08	7.8209
Iquique, Tarapaca, Peru, . .	99.50	0.45	0.05	7.8334
Kokomo, Howard Co., Ind. . .	99.48	0.52	......	7.8606

Long Creek, Jefferson Co., Tenn., proven to be a pseudo-meteorite of cast-iron.

—— (*Ann. Mus. Wien*, xiii., p. 473).

"Studies of Meteoric Irons, ix." Analysis of the *Shingle Springs*, Cal., iron gave nickel iron, 97.65; nickel-iron phosphides, 2.21; troilite, 0.14.

A mass of kamacite from *Magura*, Hungary, gave Fe, 92.54; Ni, 6.40; Co, 0.73; P, 0.09. Other irons are mentioned.

—— (*Mitt. Nat. N. V. Rügen*, 1897, p. 35).

"An Alleged Meteoric Iron from Walker County, Alabama, U. S. A."

Cooper, A. S. (*Cal. Ming. Bureau*, Bul. No. 16).

"The Genesis of Petroleum and Asphaltum in California."

D'Achiardi, G. (*Att. Soc. Tosc.*, xi., pp. 26, 46).

"Notes on the Mineralogy of Italy."

—— (*Att. Soc. Tosc.*, xi., p. 114).

"Studies on Some Varieties of Opal from Toscana."

—— (*Att. Soc. Tosc.*, xi., p. 156).

"Phosphorescence in Some Dolomite from Elba." Analysis shows:

$H_2O + CO_2$, ...	46.26	46.03
CaO, ...	29.09	29.86
MgO,.	22.60	21.09
$Mn_3O_4 + Fe_2O_3$, ...	0.83	1.33
Insoluble, ...	0.79	1.04
	99.57	99.35

D'Ancona, G. (*Att. Soc. Tosc.*, *Memorie*, xvi., p. 37).

"On the Chemical Composition of the Schists of Galestro, Toscana."

Day, Wm. C. (*J. Frank. Inst.*, cxlviii., p. 205); (*Am. Chem. J.*, xxii., p. 478).

"The Laboratory Production of Asphalts from Animal and Vegetable Materials." Minerals very like the natural Utah occurrences were made by distillations of wood and fish. The following analyses of natural minerals from Utah are given:

	C.	H.	N.	S.	Sp. gr.
Gilsonite, . . .	85.83	10.59	2.59	0.26	1.0354
Elaterite, . . .	73.11	9.45	1.90	3.17	——
Nigrite, . . .	83.33	8.69	——	0.42	——

Davison, J. M. (*Am. Jour. Sci.*, vii., p. 4).

"Platinum and Iridium in Meteoric Iron." Records traces of platinum and iridium from the Coahuilia and Toluca irons.

Didier, P. (*Compt. rend.*, cxxviii., p. 1286).

"On the Decomposition of Silicates by Hydrogen Sulphide." The majority of silicates, such as peridote, cerite, jeffersonite, lepidomelane, when heated in a tube at about 1400° C., are decomposed and partially converted into sulphides. In some cases the latter are easily separated, owing to the occurrence of volatilization or of crystallization, or by their solubility in dilute acids; in others, the sulphides obtained are only attacked by reagents, which decompose the original silicate. The reaction is always incomplete, since the silicate becomes covered with a protective layer of sulphide, and in the greater number of experiments the somewhat remarkable formation of a small quantity of sulphuric acid was noted. A portion of the silica appears to be reduced to silicon, and this is also found to occur in the action of hydrogen sulphide on silica alone.

Dieseldorff, Arthur (*Zeit. prak. Geol.*, 1899, p. 321).

"Iodine-bearing Copper Ores from New South Wales."

—— (*Zeit. f. Prak. Geol.*, 1899, p. 423).

"A New Telluride Gold Occurrence in South Australia." A melonite carrying Te, 77.52; Se, 2.49; Au, 0.07; Ni, 19.11; Co, 0.10; Fe, 0.68; SiO_2, 0.08.

Doherty, W. M. (*Rept. Aust. Assoc.*, vii., p. 339).

"Manganese Nodules found at Onybygambah, Australia." Small nodules occurring loose in the soil, and containing from 25–40 per cent. of MnO_2.

Doll, Ed. (*Vh. G. Reichs.*, 1898, p. 419).

"Prehnite after Orthoclase; Mountain Leather after Biotite;

Chlorite after Mountain Leather: Three New Pseudomorphs; Chlorite after Biotite."

—— (*Vh. G. Reichs.*, 1899, p. 87).

"Pyrite after Epidote from St. Lorenzen; Lazurite after Lazurite, Limonite after Lazurite, and Malachite from Chessy: Four New Pseudomorphs."

Du Bois, G. (*Zeit. f. Prak. Geol.*, 1899, p. 397).

"The Bitumen of Barbadoes." Analysis gives 95.5 soluble in benzol.

Liquid constitituents,	63.63
Fixed carbon,	33.27
Impurities,	4.10

Eichleiter, C. F. (*Vh. G. Reich.*, 1899, p. 348).

"On the Occurrences and Chemical Composition of Anthracite in the Silurian Formation of Central Bohemia."

Filiti, G. (*Bul. Soc. Ch.*, xxi., p. 338).

"On the Amount of Sulphur in the Petroleums of Roumania."

Finckh (*Jh. Ver. Würt.*, 1889, p. lxxiv.).

"The Origin of Minerals from Natural Fusions."

Fletcher, L. (*Min. Mag.*, xii., p. 171).

"On the Cliftonite and Tænite of the Meteoric Iron found in 1884 in the Sub-district of Youndegin, Western Australia." A 97-gr. piece of this iron yielded no graphite, showing the irregular distribution of cliftonite in the iron. Small plates isolated from the mass during solution proves to be tænite, and give on analysis, Fe, 61.87; Ni(Co), 38.13.

Fortsch (*Z. Naturer*, 70, 322, 1898).

"Pseudo-ozokerite."

Formanek, J. (*Chem.-Ztg.*, 2, 309–12). [See *Chem. Centr.-Blatt.*, 1899 ii., 12.]

"The Working Up of Lepidolite."

Franco, P. (*Rend. Ac. Napoli*, iii., p. 192).

"The Salt Sublimation of the Last Vesuvian Eruption."

Friedel, G, (*Bul. Soc. Min.*, xxii., p. 84, p. 5).

"New Experiments on the Zeolites."

—— (*Bul. Soc. Min.*, xxii., p. 20).

"On a New Artificial Silico-aluminate." Cubic. $8SiO_2,3Al_2O_3,$-$6Na_2O$.

—— (*Bull. Soc. Min.*, xxi., p. 5.)

"On the Water of Zeolites."

Friedel, C. (*Bul. Soc. Min.*, xxii., p. 17).

"Analysis of an Artificial Silicate of Aluminum and Sodium." Analysis: SiO_2, 38.98; Al_2O_3, 32.95; Na_2O, 19.09; K_2O, 3.19; H_2O, 5.80. This gives the formula, $2SiO_2.Al_2O_3,Na_2O,H_2O$, and is near thompsonite.

Gaertner, A. (*Arch. Nat. Meck.*, 51 Jh.. pp. 73–130).

"On the Vivianite and Siderite of the Mecklenburg 'Moorlands." An extensive chemical study of 68 pages, with numerous analyses.

Gaubert, P. (*Bul. Mus. d'Hist. Nat.*, 1898, p. 113).

"On the Celerity of the Attack of Calcite by Acids."

Gebeck, L. (*Sprechsaal*, 1898, xxxi., p. 493); [*Chem.-Ztg.*, 1898, No. 75 (Rep., p. 239)].

"The Quartz-sand of Ruhland." An extraordinarily pure quartz-sand. SiO_2, 99.82; Al_2O_3, 0.0571; Fe_2O_3, 0.046; CaO, 0.0232; MgO, 0.0146; K_2O, 0.0235; MnO, trace.

Gilinka, K. (*Mem. Inst. N. Alex.*, xii., p. 41). [See also *Zeit. Kryst. Min.*, xxxii., p. 79, and *Chem. Centr.-Blatt.*, 1899, ii., p. 1063.]

"Chemical Studies in Aluminium Silicates and Clays."

Giorgis, G., and Alvisi, M. (*Gaz. Chi. Ita.*, xxix, pp. 185–263).

"Pozzolane, Natural and Artificial." An extensive article with numerous analyses.

Gladkov, P. V. (*Berg. Hüt. Ztg.*, lviii., p. 497); (*Chem. Centr.-Blatt.*, 1899, ii., p. 1066.)

"The Property of Pyrite of Precipitating Gold from its Solution." It is shown that if auric chloride is filtered through pyrite or chalcopyrite, gold is deposited as metal, and a part of either copper or iron goes into solution as chloride.

Graff, Louis (*Jahrb. f. Min.*, 1899, vol. i., p. 76).

"Fibrous Goslarite from the Schmalgraf Mine at Altenberg (Aachen)." Analysis of the fibrous mineral from this deserted mine gives: ZnO, 27.398; FeO, 0.251; SO_3, 27.978, H_2O, 44.316.

de Grammont, A. (*Bul. Mus. d'Hist. Nat.*, 1897, p. 376.)

"Spectroscopic Analysis of Some Minerals in the Collection of the Museum."

Guillemain, Constantin (*Inaug. Diss.*, *Breslau*, 1898, 47 pp.) [See abst. by Spencer in J. Chem. Soc., No. ccccxlv., p. 756.]

"Composition of Natural Thio-salts." From new analyses which are given the following formulæ are obtained: Emplectite, Cu_2S,Bi_2S_3; aikinite, $PbCuBi_2S_3$; zinckenite, PbS,Sb_2S_3; dufenoysite, $2PbS,As_2S_3$; jamesonite, $2PbS,Sb_2S_3$; boulangerite, $3PbS,Sb_2S_3$; geocronite, $5PbS,(SbAs)_2S_3$; bournonite, $PbCuSbS_3$; jordanite, $4PbS,As_2S_3$; jordanite altered, $Pb_6As_2S_{10}$; enargite, $Cu_7As_2S_9$.

Harker, Alfred (*Geol. Mag.*, vi., p. 220).

"On the Average Composition of British Igneous Rocks."

Hartley, E. G. T. (*Zeit. Kryst. Min.*, xxxi., p. 589; *Min. Mag.*, xii., p. 120).

"Composition of the Natural Arsenates and Phosphates. Part I. Chalcophyllite." Analysis gives: H_2O, 28.26; CuO, 45.93; Al_2O_3, 4.74; As_2O_5, 14.46; SO_3, 7.04 = 100.43, which differs considerably from previous analyses, especially in the SO_3, which had been previously overlooked. The analysis is equivalent to no simple formula.

—— (*Min. Mag.*, xii., p. 152).

Part II. "Pharmacosiderite" from Cornwall (?), gave on analysis As_2O_5, 37.16; H_2O, 18.85; Fe_2O_3, 37.58; P_2O_5, 1.20; K_2O, 4.54 = 99.33. The presence of potassium had not been previously known, and is considered as replacing some of the H in the hydroxyl, which gives the new formula thus: $2FeAsO_4.Fe[O(H.K)]_3.5H_2O$.

—— and **Ramage, Hugh** (*Pro. Roy. S. Dublin*, viii., p. 703).

"A Spectrographic Analysis of Iron Meteorites, Siderolites and Meteoric Stones."

Hasselberg, M. B. (*Öfv. Ak. Stockh.*, 1899, 56, p. 131).

"The Cosmic Distribution of Vanadium." The author had previously proven that vanadium is distributed in small amounts all over the globe. After a careful study of the spectrum of rutile, he compares it with that of the sun and some of the stars, finding small amounts present in them. Taking up meteorites, he finds vanadium in all but the meteoric irons, the Greenland iron being an exception. From these observations on meteorites, he concludes that areolites and siderites are of different origins. The conclusion of the whole series of observations is that vanadium is generally distributed through the universe as it is upon the globe.

Hennig, And. (*Geol. För. Förh.*, 1899, xxi., p. 391).

"Apophyllite from Sulitelma." SiO_2, 52.61; $Al_2O_3 + Fe_2O_3$, 2.23; CaO, 23.82; K_2O, 4.96; Na_2O, 0.05; H_2O, 15.67, and F, 1.24.

Herrick, C. L. (*Am. Geol.*, xxii., p. 285).

"The Occurrence of Copper and Lead in the San Andreas and Caballo Mountains."

Hershey, Oscar H. (*Am. Geol.*, xxiv., p. 38).

"Origin and Age of Certain Gold 'Pocket' Deposits in Northern California." The deposits in Trinity county are considered of Jurassic age, and are supposed to have come up with a mass of diabase in chemical combination, to have been released by disintegration, concentrated by ancient sea-action, and finally fused in their present position.

—— (*Am. Geol.*, xxiv., p. 73).

"Age and Origin of Certain Gold Deposits of the Isthmus of Panama." The deposits are considered of early Tertiary age, and are supposed to represent an auriferous quartz solution coming from great depths, and that the gold was not derived by secretion from the country rock.

—— (*Am. Geol.*, xxiv., p. 240).

"The Gold-bearing Formation of Stephenson County, Illinois." Traces of Gold Occur in the Utica series, which is considered to owe its origin to local percolation of a mineralized solution. The fact is emphasized that the deposits are in no way fissure-veins, although to some extent resembling such.

Hillebrand, W. F. (*Am. Jour. Sci.*, vii., p. 51).

"Mineralogical Notes." Analysis of tyonite, bastnäsite, prosopite, jeffersonite, covellite, etc.

—— *Am. Jour. Sci.*, viii, p. 295).

"Mineralogical Notes: Melonite, (?) Coloradoite, Petzite, Hessite." A mineral resembling Genth's melonite in physical properties and from the type locality gave $NiTe_2$ (melonite = Ni_2Te_3). Coloradoite (?) is reported from the Norwegian Mine, California. New analyses of petzite and hessite are given.

—— (*Jour. Am. Chem. Soc.*, xx., p. 461).

"Volumetric Estimation of Vanadium in Presence of Small Amounts of Chromium, with Special Reference to the Analysis of Rocks and Ores."

Hillebrand, W. F., Turner, H. W. and **Clarke, F. W.** (*Am. Jour. Sci.*, vii., p. 451).

"Roscoelite, with a Note on Its Chemical Constitution." Analysis gives SiO_2, 45.17; TiO_2 0.78; V_2O_3, 24.01; Al_2O_3, 11.54; FeO, 1.60; MgO, 1.64; K_2O, 10.37; Na_2O, 0.06; Li_2O, trace; H_2O at 750°, 0.40; H_2O at 105°–280°, 0.17; H_2O above 280°, 4.12 = 99.86. Clarke considers roscoelite a vanadium muscovite, possibly $V_2(SiO_4)_3KH_2$. Roscoelite occurs in rosettes in Eldorado county, near Placerville, California.

Hödlmoser, Carl (*Min. Mitth.*, xviii, p. 513).

"Chemical Analysis of the Meteorite of Zavid." H_2O, 0.39; SiO_2, 41.90; Al_2O_3, 1.92; Fe, 0.15; FeO. 27.40; Co, trace; Ni, trace; Mn, trace; CaO, 4.60; MgO, 22.79; Na_2O, 1.05; K_2O, 0.41; S, 1.01.

Hoffmann, G. C. (*Am. Jour. Sci.*, vii., p. 243).

"On the Occurrence of Polycrase in Canada." It is found in a granite vein with xenotime and spessartite mixed with cleavable magnetite. Qualitative examination of several hundred grams from Calvin, Ontario, shows: Nb_2O_5, Ta_2O_5, TiO_2, ThO, Y_2O_3, SnO_2 Ce_2O_3, LaO, DiO, UO, FeO, MgO, H_2O.

Jaunasch P. and **Weber, H.** (*Ber. Dtsch. Chem. Ges.*, xxxii., 1670–75).

"The Disintegration of Silicates by Boric Anhydride."

Kiessling, F. (*Chem.-Ztg.*, 1899, p. 584).

"The Occurrence of Free Zinc Oxide in the Mineral Kingdom." The zinc oxide occurs as a white coating up to 5 or 8 mm. thick on crystals of sphalerite at San José, Spain. The oxide is almost chemically pure. See also Dr. C. Counsler (*Chem. Ztg.*, 1899, p. 593).

Knett, J. (*Jahrb. f. Min.*, 1899, ii., p. 81).

"Sulphur and Pyrite Settling in the Karlsbad Thermal Water." Small rhombic crystals of S. $Na_2SO_4 + C_2 = Na_2S + 2CO_2$; $Na_2S + Fe_2O_3 = FeS_2 + FeO + Na_2O$; $FeO + Na_2O + 4CO_2 + 2H_2O = Fe(HCO_3)_2 + 2NaHCO_3$.

Koenigsberger, Jah. (*Min. Mitth.*, xix., p. 148).

"The Coloring Substance of Smoky Quartz."

Kovar, Fr. (*Listy chemické*, 1899, xxiii., p. 2); [*Chem.-Ztg.*, 1899, lxii.; *Rept.*, p. 226].

"Chemical Investigation of Some Minerals from Vír (Moravia)." Analyses are given of two clays (halloysite and melivite) which had never been found in Bohemia and Moravia before; also two limestones, and of the brilliant honey yellow grains of titanite occurring in the limestone.

—— (*Casopis pro prumysl chemicky*, 1898, viii., p. 10); [*Chem.-Ztg.*, 1898, xliv., (Rep., p. 129)].

"Analysis of Some Minerals from the Graphite Mines of Maly, Tresny, in Moravia."

—— (*Casopis pro prumysl chemicky*, 1898, viii., p. 121); [*Chem.-Ztg.*; 1898, xli., (Rep., p. 129)].

"Braunstein from Stepânovice in Moravia." 85.91 per cent. MnO_2; 11.43 per cent. MnO_2H; 2.71 per cent. insoluble in acid; traces of Fe and Ca.

—— (*Casopis pro prumysl chemicky*, 1898, viii., p. 122); [*Chem.-Ztg.*, 1898, xliv., (Rep., p. 129)].

"Analyses of two Servian Minerals."

—— (*Casopis pro prumysl chemicky*, 1898, viii., p. 121); [*Chem.-Ztg.*, 1898, xli., (Rep., p. 129)].

"Graphite from Maly Tresny, in Moravia."

C = 39.60 — 42.35
Ash = 57.48 — 55.63
Water = 1.91 — 1.40

Kraatz-Koschlan, K. v. and Wöhler, Lothar (*Min. Mitth.*, xviii., p. 304).

"On the Natural Coloration of Minerals."

Kuntze, Otto (*Am. Geol.*, xxiii., p. 119).

"On the Occurrence of Quenstedtite, near Montpelier, Iowa." At the dry season of the year a deposit of this rare mineral is found adhering to the under-surface of overhanging pyrite shale, from which the mineral is produced by the following equation: $2FeS_2$

$+ H_2O + O_{16} = Fe_2(SO_4)_3 + H_2SO_4$. Analysis of the quenstedite gave SO_3, 39.01; H_2O, 32.32; Al_2O_3, 0.27; Fe_2O_3, 26.86; insol. SiO_2, 1.79.

Kusnetzow, S. (*Zeit. f. Prakt. Geol.*, 1898, p. 26).

"The Glaubersalt Formation in Karabugas Gulf." This open bay has a constant influx from the Caspian Sea, whose sp. gr. is 1.3° Bé. The water of the gulf is so charged with salts as to have a sp. gr. of 22°–23° Bé. The evaporation produced by hot, dry winds causes the separation of the mineral in crystal form.

Kyle, Juan, J. J. (*An. Soc. C.*, xlvii, p. 143).

"Argentina Manganese of 'La Cortaderita,' Prov. of Mendoza." Analysis gives H_2O, 7.34; MnO_2, 72.91; MnO, 7.74; ZnO, 0.8; Fe_2O_3, 3.7; CaO, 2.0; $PtCl_4$, 0.822; Au, 0.004; Sb, 0.41; Pb, 0.54; S, 0.247; SiO_2 3.4 = 99.928.

Lemoine, Auguste (*Bul. Ch. Belge.*, xii., p. 334).

"On the Oxidation and the Combustion of Pyrite."

Linck, G. (*Ber. Deut. Chem.*, xxxii., p. 881).

"On the Allotrophic Modifications of Phosphorus and Arsenic as well as the Simple Iron Sulphides."

Mallet, F. R. (*Min. Mag.*, xii., p. 159).

"On Langbeinite from the Punjab Salt Range." The chemical structure of langbeinite from the salt deposits of India is described and the accompanying minerals given.

Mattericci, von R. V. (*Rend. Ac. Napoli.*, iii., p. 223).

"Natural Sodium Carbonate of the Vesuvian Lava of 1895."

Meunier, Stanislas (*Compt. rend.*, cxxviii., p. 1013).

"On the Origin of the Siliceous and Quartose Grains Found in Chalk."

Michel, Leapold (*Bul. Soc. Min.*, xxii., p. 29).

"Bismuthiferous Molybdenite." Analysis gave Mo, 40.10; Bi, 28.37; S, 30.74; Fe, trace. Under magnification the mineral is found to be a mixture of molybdenite and bismuthinite.

Miers, H. A., Hartlig, E. G. T. and **Dick, Allan** (*Zeit. Kryst. Min.*, xxxi., p. 583); (*Min. Mag.*, xii., p. 111).

"Mineralogical Notices: Sphalerite, Galenite, Pyrite and Lead." 1. "Zinc blende with metallic lustre" is found on analysis to equal 5ZnS.FeS. Sp. gr., 3.8. 2. "Zinciferous galenite" in cubes modified by the octahedron, from Bingham, Utah, equals 4PbS.(Zn,Fe)S. 3. "A tetartohedral (?) crystal of pyrite," from Gilpin county, Colorado. 4. Etched surfaces of lead, which under the microscope appeared hexagonal, were measured by theodolite goniometer and shown to be cubic. The method of forming the crystals are described by Mr. Dick.

Miller, W. W. Jr. (*Am. Chem. J.*, xxii.)

"Analysis of Emery from Virginia," p. 212. Al_2O_3 56.74; Fe_2O_3, 15.5; FeO, 20.77; SiO_2, 0.68; TiO, 1.86; Na_2O, 3.95 = 99.50, which corresponds to magnetite, 22.48 per cent.; hercynite, 33.34; corundum, 37.16. The hercynite deprives it of value as an abrasive. "Examination of a Sandstone from Augusta County, Va.," p. 216. "Analysis of Smithsonite from Arkansas," p. 218.

Mingaye, C. H. (*Rept. Aust. Assoc.*, vii., p. 327).

"On the Occurrence of Phosphatic Deposits in the Jenolan Caves, New South Wales."

—— (*Rept. Aust. Assoc.*, vii., p. 332).

"Notes and Analyses of Some New South Wales Phosphatic Deposits."

Morozewicz, Jose J. (*Min. Mitth.*, xviii., pp. 1–90; also pp. 105–240).

"Experimental Investigation of the Formation of Minerals in Magma." The following are some of the topics investigated in this valuable memoir: "Conditions of the formation of corundum, spinel, sillimanite and cordierite;" "Chemical composition of pyroxenes, separated from the molten silicates;" "Synthesis of noselite, haüynite, sodalite and sodium garnet, which is named lagoriolite;" "The micro-petrographic description of the fusion;" "Liparite-trachyite, andesite magma, non-aluminous basalt magma, aluminous basalt magma;" "Corundum rocks of the Urals," together with a systematic study of aluminous silicate magma.

—— (*Jour. Geol.*, vii., p. 300). Review by T. A. Jagger, Jr.

"Experimental Investigation of the Formation of Minerals in an Igneous Magma." Dr. Morozewicz has succeeded in synthetically reproducing from chemical mixtures most of the commonly occurring igneous rocks. The following minerals were produced artificially during the process: Corundum, hematite, ilmenite, quartz, tridymite, spinel, chlorospinel, pleonaste, hercynite, manganoferrite, magnetite, sillimanite, cordierite, olivine, forsterite, fayalite, monticellite, enstatite, hypersthene, augite, alkaline augite, diopside, wollastonite, biotite, lepidomelane, sanidin, labradorite, anorthite, melilite, nephelite, haüynite, nosean, sodalite and lagorialite. A new rock—kyschtymite—consisting of corundum, anorthite, biotite and accessory green spinel, also apatite and ziron. It occurs in the Kyschtym district of the Urals.

Mourlot, M. A. (*An. Ch. Phy.*, xvii., p. 510).

"Researches on the Metallic Sulphides." Compounds of the following are prepared and studied: Potassium, sodium, lithium, barium, strontium, calcium, magnesium, zinc, cadmium, iron, chromium, nickel, cobalt, manganese, aluminium, tin, antimony, bismuth, lead, thallium, silver and copper.

Mrazec, L. (*Bul. Soc. Bucarest*, vii., p. 196).

"Note on a Saline Efflorescence on the Marl of Seăpĕn (distr. Mehedintĭ)."

—— (*Bul. Soc. Bucarest*, vii., p. 201).

"Note on Andesite Tuff from the Vicinity of Bacăŭ."

Mrha, Josef (*Min. Mitth.*, xix., p. 111).

"Contribution to the Knowledge of Kelyphite." It is considered a mixture of spinel and other substances. A bulk analysis gave SiO_2, 41.08; Al_2O_3, 15.29; Fe_2O_3, 4.16; Cr_2O_3, 2.58; FeO, 4.01; MnO, 0.36; CaO, 4.77; MgO, 25.39; Ignition, 0.92 = 98.56.

Mugge, O. (*Min. Mitth.*, xix., p. 165).

"Artificial Corundum."

—— (*Min. Mitth.*, xix., p. 102).

"On Regular Arranged Growths of Arsenic and Flowers of Arsenic."

—— *Jahrb. f. Min.*, 1899, ii., p. 187).

"On Pseudomorphs of Celestite After Fiberous Gypsum." The author considers the fiberous celestite from Blair county, Pa., and elsewhere as a probable pseudomorph after gypsum.

Nasini, R., Anderlini, F. and Salvadori, R. (*Chem. Ztg.*, 1898, p. 579).

"The Probable Occurrences of Coronium and Other New Elements in the Gases from Solfatara di Pozznoli and Vesuvius."

—— (*Gazz. Chim. Ital.*, 1898, xxviii., vol. 1, p. 81); [*Chem.-Ztg.*, 1898, xxxv., (Rep., p. 109)].

"Investigations of the Constituents of the Italian Fumerols." As high as 3 per cent. argon and 1 per cent. helium were found.

—— *Att. Ac. Lincei*, vii., p. 73).

"The Apparent Occurrence of Coronium and of Other New Elements in the Gases of the Solfatara di Pozzuoli and Vesuvius."

Nobb, Arnold (*Monatshefte f. Chemie.*, xx., p. 272). (See abst. *Posner Chem. Cent.-Blatt.*, 1899, ii, p. 283).

"The Coloring Matter of Amethyst, Citrin and 'Burnt' Amethyst." The author concludes that the occurrence of citrin with amethyst may be the result of heating amethyst.

Ochsenius, C. (*Chem.-Ztg.*, 1899, p. 669).

"The Occurrence of Iodine in Cuprite and Malachite."

—— (*Jahrb. f. Min.*, 1898, ii., p. 232).

"A Quite Recent Formation of Sulphur."

O'Reilly, J. P. (*Pro. Roy., S. Dublin*, viii., p. 732).

"On the Occurrence of Anatase (Xanthitane?) and Brookite in the Quartzites of Shankill, Ireland." Analysis of anatase: SiO_2, 3.07; Al_2O_3, 13.02; FeO, 10.40; Fe_2O_3, 6.07; CaO, 2.16; MgO, 4.42; MnO, trace; TiO_2, 60.81; $K_2O + Na_2O$, 0.12 = 100.01.

Penfield, S. L. and Foote, H. M. (*Am. Jour. Sci.*, vii., p. 97); (*Zeit. Kryst. Min.*, xxxi., p. 321).

"Chemical Composition of Tourmaline." From the discussion of analyses of pure material it is considered possible to refer tourmaline to an aluminum-borosilicic acid $H_9Al_3(B.OH)_2Si_4O_{19}$.

—— and **Warren, C. H.** (*Zeit. Kryst. Min.*, xxxii., p. 4); (*Am. Jour. Sci.*, viii., p. 21).

"Chemical Composition of Parisite and a New Occurrence of the Same in Ravalli county, Montana."

Petrin, Jakob (*Geol. För. Förh.*, xx., p. 183).

"On Valleriite." The author suggests it to be a mixture, thus:

Cu,	7.00	Covellite	18.91
S,	19.07	CuS	10.98
S,	13.13	Pyrrhotite	11.75
Fe,	20.11	Fe_7S_8	17.99
MgO,	10.42	Hydrotalcite	8.28
Al_2O_3	4.98	$Al_2O_3.6MgO.15H_2O$	4.30
H_2O,	10.77		8.60
K_2O,	0.39		0.19
Na_2O,	0.80		0.43
CaO,	0.25		0.25
FeO,	8.44	Siderite	11.21
CO_2,	4.18	$FeCO_3$	7.16
	99.54		100.60

Philippi, E. (*Jahrb. f. Min.*, 1899, vol. i, p. 32).

"Dolomitization in the Southern Alpine Conchodon-Dolomite." Gives an illustration of the origin of magnesian limestones as follows: The $CaCO_3$ is more easily soluble in H_2O than $MgCO_3$, therefore the rock becomes richer in Mg as weathering proceeds, until pure dolomite $MgCO_3.CaCO_3$ is produced.

Phillips, Francis C. (*Pro. Am. Acad.*, xxxiv., p. 71).

"On Fluctuations in the Composition of Natural Gas."

Pouget, Isidore (*An. Ch. Phy.*, xviii., p. 508).

"Researches on the Sulphantimonites and Selenantimonites."

Pratt, J. H. (*Am. Jour. Sci.*, viii., p. 227).

"Separation of Alumina from Molten Magmas, and the Formation of Corundum."

—— (*Am. Jour. Sci.*, vii., p. 281).

"Occurrence, Origin and Chemical Composition of Chromite." Chromite is considered to be held in solution in the dunite and to have been deposited at the contact of the dunite with the gneiss. Chromite is considered as composed of the molecules $FeO.Cr_2O_3$ $MgO.Cr_2O_3$ and $MgO.Al_2O_3$. A new mineral from Webster county, N. C., having the formula $2MgAlO_4.MgCr_2O_4.FeCr_2O_4$ is named Mitchellite.

Prior, G. T. and **Spencer, L. J.** (*Min. Mag.*, xii., p. 184).

"The Identity of Binnite with Tennantite, and the Chemical Composition of Fahlerz." Investigation of crystals from Binnenthal, Switzerland, showed the crystals to be identical with those of tennantite. Chemical analyses correspond to the formula $3Cu_2S.As_2S_3$, or Cu_3AsS_3.

"II. The Chemical Composition of Fahlerz (Tetrahedrite and Tennantite)." $3R'_2S.R'''_2S_3+x[6R''S.R'''_2S_3]$, where $R'=Cu,Ag$; $R''=Fe,Zn$; $R'''=Sb,As,Bi$ and x is a small fraction = $\frac{1}{10}$, $\frac{1}{6}$ and $\frac{1}{2}$. Some new analyses, also some quoted correspond to this formula very well.

—— (*Min. Mag.*, xii., p. 96).

"Minerals from Swaziland, South Africa: Niobates and Titanates of the rare earths, chemically allied to Euxenite and Fergusonite; Cassiterite, Monazite, etc. The 'Æschynite' from Hitterö."

Ramsay, W. and **Zilliacus** (*Öfer. Fins. För.*, xxxix); [*Hazard, Chem. Cent.-Blatt.*, 1900, i., p. 310].

"Monazite from Impilaks." Analysis: P_2O_5, 26.18; SnO_2, 1.47; SiO_2, 1.22; ThO_2, 5.65; Ce_2O_3, 31.63; Di and La, 29.68; Yt. earths, 2.86; Fe_2O_3, 0.68; CaO, 0.39; ign., 0.40 = 100.16.

Raymond, R. W. (*Trans. Am. Inst. Min. Eng.*, xxviii., p. 235).

"Note on Limonite Pseudomorphs from Dutch Guiana." These pseudomorphs are from the new gold deposit of Dutch Guiana and are altered from pyrite, the interior portion of which consisted of Fe_2O_3 and was found to carry gold while the exterior was barren.

Rheineck, H. (*Zeit. Kryst. Min.*, xxxi., p. 385).

"Formulas for Tourmaline." A criticism of the article of Penfield and Foote, which see.

Richard, (*Bul. Soc. Bucarest.*, vii., p. 405).

"Origin of Petroleum."

Rinne, F. (*Jahrb. f. Min.*, 1899, vol. i, p. 1).

"Contribution to the knowledge of the Nature of Water of Crystallization." The following are the subjects discussed: "The Evaporation of the Water of Crystallization from $BaCl_2+2H_2O$, and $CuSO_4+5H_2O$;" "Evaporation of the Water of Crystallization from Heulandite;" "Heat Equalization of Heulandite, with its Surroundings, which are Held at a Higher Temperature;" "The Simultaneous Chemical and Physical Alteration of Heulandite by Heating."

Rogers, Austin F. (*Kan. Uni. Qr.*, viii., p. 182).

"Normal Ankerite from Phelps county, Missouri." Analysis gave CaO, 28.41; MgO, 10.2; FeO, 17.22; CO_2, 44.21. This agrees almost precisely with the formula $2CaCO_3.MgCO_3.FeCO_3$, which is normal for ankerite.

Rössler, O. (*Arch Pharm.*, 1899, ccxxxvii., p. 239); [*Chem.-Ztg.*, 1899, xlii., (Rep., p. 157)].

"Chemical Investigation of Amber and Copal."

Saake, H. (*Chem.-Ztg.*, 1899, p. 461).
"Artificial Cryolite."

Saligny, A. O. (*Bul. Soc. Bucarest.*, viii., p. 351).
"Contribution to the Knowledge of the Petroleums of Roumania."

Salle, E. (*Att. Soc. Tosc.*, xi., p. 144).
"On Calcium Carbonate." Analyses are given.

Sargent, Geo. W. (*Jour. Am. Chem. Soc.*, xxi., p. 858).
"The Quantitative Estimation of Boric Acid in Tourmaline."

Schwage, A. and von Gumbel (*Geognostische Jahreshefte*, vii. *Jahrgang*, p. 57–94). [See *Hazard, Chem. Cent.-Blatt.*, 1899, i, p. 222].
"Mineral Analyses from the Chemical Laboratory of the Geognostical Section of the Imperial Bavarian Department of Mines in Munich."

Sjostrom, O. (*Mitt. Nat. N. V. Rügen.*, 1898, p. 1).
"The Chemical Investigation of Meteorites." The methods employed in the analyses of irons are given.

Smith, Edgar F. (*Jour. Am. Chem. Soc.*, xx., p. 289).
"Action of Sulphur Monochloride Upon Minerals."

Sommerlad, H. (*Zeit. Anorg. Chem.*, 1898, xviii., p. 420); [*Chem.-Ztg.*, viii., (Rep., p. 14)].
"Experiments for the Production of Sulphantimonites and Sulpharsenites of Silver, Copper and Lead in the Dry Way."

The author having previously described some interesting experiments on the production of light and dark ruby silver ore by the action of molten chloride of silver on antimony and arsenic trisulphides, now describes a continuation of his valuable research on other metallic chlorides.

Spezia, Giorgio (*Att. Acc. Torino.*, xxxiii., pp. 289, 876).
"Quartz and Opal." The solution of quartz in water is found to vary with temperature, slow evaporation of the solution yielding opal. Evaporation of a solution containing sodium silicate yields quartz.

Stahl, A. F. (*Chem.-Ztg.*, xxiii., p. 144).
"The Theory of Naphtha Formation."

Termier, P. (*Bul. Soc. Min.*, xxii., p. 27).
"On the Chemical Composition and the Optical Properties of Laverrierite." Analysis: SiO_2, 49.90; Al_2O_3, 37.02; Fe_2O_3, 3.65; MgO, 0.30; CaO, trace; K_2O, 1.13; loss on calcination, 8.65.

Thiele, F. C. (*Am. Chem. Jour.*, xxii., p. 489).
"Texas Petroleum." The occurrences and chemical composition of Texas oil are described.

Thomsen, Julius (*Overs. o. d. K. D. Videns. Sels. Forh.*, 1898, i, p. 69).

"Separation of a Natural Helium Compound by the Development of Light and Heat." One of the minerals, from the cryolite workings of Greenland, approaching fluorite in composition, but containing fluorides of rare earths of the cerium, yttrium groups, was heated on platinum and gave a bright fluoresence, which could not be obtained again from the portion so treated. The spectroscope indicated that helium, together with carbon compounds and nitrogen, was set free.

—— (*Zeit. Phy Chem.*, xxv., p. 112).

"Separation of a Natural Helium Compound by the Development of Light and Heat."

Tolman, C. F. (*Jour. Geol.*, vii., p. 585).

"The Carbon Dioxide of the Ocean and its Relation to the Carbondioxide of the Atmosphere.'"

Travers, Morris W. (*Pro. Roy. Soc.*, lxiv., p. 130).

"The Origin of the Gases Evolved on Heating Mineral Substances, Meteorites, etc."

Tschermak, G. (*Min. Mitth.*, xix., p. 155).

"The Chemical Structure of Tourmaline."

Turner, H. W. (*Am. Jour. Sci.*, vii., p. 294).

"Rock-forming Biotites and Amphiboles." With analyses by W. F. Hillebrand, H. M. Stokes and William Valentine.

Urbain, G. (*Rev. Phys. Chim.*, 1898, ii., p. 433); [*Chem.-Ztg.*, 1898, xcv., (Rep., p. 285)].

"The True Nature of Yttrium."

The author concludes that there is no (present) plausible and scientific grounds upon which yttrium may be considered a complex mixture.

Uroschewitch, S. (*Zeit. Kryst. Min.*, xxxi., pp. 389).

"A Pseudomorph of Asbestos After Biotite."

Van Bammelen, J. M. (*Zeit. Anorg. Ch.*, xxii., p. 313).

"The Occurrence, Composition and Formation of Iron Accumulations in, and under, Bogs."

Van't Hoff, J. H. (*Ber. Ak. Berlin*, 1898).

"Investigation of the Formation Relations of the Oceanic Salt Deposits, Particularly that of Strassfurt." X. and XI. The solution of $MgCl_2$, K_2SO_4, $MgSO_4$, KCl, and their double salts by simultaneous saturation in NaCl at 25°.

—— and **Williams, Percy** (p. 808).

"Qualitative Part (No. 3): The Appearance of Leonite at 25°."

—— and **Meyerhoffer, W.** (p. 814).

"Quantitative Part (No. 2): The Path and Termination of Crystallization."

—— and **Dawson, H. M.** (1899, p. 340).

XII. $MgSO_4+\frac{5}{4}H_2O$.

—— and **Meyerhoffer, W.** (p. 372).

XIII. The complete evaporation of sea water at 25°.

—— and **Dawson, H. M.** (p. 557).

XIV. The influence of pressure on the formation of tachydrite.

—— and **Chiaraviglo** (1899, p. 810).

XV. The formation of glauberite at 25°.

—— and **Kassatkin, N.** (p. 951).

XVI. The magnesium potassium-sulphate, $\frac{4}{4}$ hydrate.

—— and **Wilson, H. A.** (p. 954).

XVII. The composition of the 25° NaCl, KCl solution.

Van't, Hoff. J. and **Meyerhoffer** (*Zeit. Phy. Chem.*, xxvii., p. 75; xxx., p. 64).

"The Application of the Principles of Statics to the Formation of Oceanic Salt Deposits, Especially those of Strassfurt." "II. Statistic Relation of Karnalite."

Volney, C. W. (*Jour. Am. Chem. Soc.*, xxi., p. 386).

"On the Constitution of Barytocelestites." Analysis of an Orthorhombic Mineral from the Limestone of Lansdowne, Eastern Ontario, gave $BaSO_4$, 30.850; $SrSO_4$, 70.010; $Fe_2O_3Al_2O_3$, 0.005. Another gave $BaSO_4$, 39.85; $SrSO_4$, 58.20. From these the following formulas result: $BaSr_2 (SO_4)_3$ and $BaSr_3(SO_4)_4$.

Vogt, J. H. L. (*Zeit. f. Prakt. Geol.*, 1898, p. 413; 1899, p. 10).

"The Relative Distributions of the Elements, Particularly the Heavy Metals and the Concentration of the Originally Finely Divided Metals."

—— (*Zeit. f. Prakt. Geol.*, 1899, pp. 113 and 177).

"The Formation of Native Silver, Particularly that of Kongsberg, by Secondary Processes from Argentite and Other Silver Minerals, and Experiment Explaining the Purity of the Lode."

—— (*Zeit. Kryst. Min.*, xxxi., p. 279).

"Artificial Cassiterite" was obtained in simple and twined crystals from the hearth of a furnace used to oxidize metallic tin.

—— *Zeit. f. Prakt. Geol.*, 1899, p. 274).

"The Relative Distribution of Vanadium in Rocks." The author first gives a summary of Hillebrand's work, see *Am. Jour. Sci.*, vi., p. 209, and thus compares the distribution of V. with Ti, P, Mn, Ti, Ba, Zr, Cr, Li, Sr and Ni, V, Ce, Yt, Co, Th, Sn, Be, Nb, Ta, Mo, W, Ur.

Von Jeremejeff, P. (*Vh. Min. Ges.* [2] 35 *Protokolle* 55–56. [See *Karnyitzhy*, *Zeit. Kryst. Min.*, xxxi., p. 506.]

"Large Examples of Pseudomorphs of Microcline, after Orthoclase (Adularia), from the Syrjavin Silver-Lead Mines in Altai."

Von John, Conrad H. (*Vh. G. Reichs.*, 1899, p. 179).

"Composition of Moldavite." The "bouteillensteins," or moldavites, of Bohemia, have long been a mystery and were considered pre-historic slags. The author now considers them of cosmic origin—*i.e.* areolites of a new class. Twelve analyses are given. One from Trebitsch gave SiO_2, 78.61; Al_2O_3, 12.01; Fe_2O_3, 0.16; FeO, 3.09; MnO, 0.11; CaO, 1.62; MgO, 1.39; K_2O, 3.06; Na_2O, 0.44 = 100.49.

Warren, C. H. (*Zeit. Kryst. Min.*, xxx., p. 595).

"The Occurrence of Melanotekite at Hillsboro, N. Mex., and the Chemical Composition of Melanotekite and Kentrolite."

Weinschenk, E. (*Min. Mitth.*, xix., p. 144).

"The Natural Coloration of Minerals."

White, I. C. (*Bul. Geol. Soc. Am.*, x., p. 277).

"Origin of Grahamite." It is shown that the grahamite of Ritchie county, W. Va., has been derived from petroleum.

Wischin, Rudolf, (*Chem.-Ztg.*, xxii., p. 916); [*Chem. Centr.-Blatt.*, 1899, ii., p. 1064].

"The Cyclic Polymethylenes of Petroleum."

Wöhler, W. L. and **Kraatz-Koschlau, K. V.** (*Min. Mitth.*, xviii., p. 447–68); (*Chem.-Ztg.*, 1898, p. 374).

"Natural Coloration of Minerals."

Zambonini, Ferruccio (*Zeit. Kryst. Min.*, xxxii., p, 152).

"On Italian Olivine."

III.

PHYSICAL MINERALOGY.

Abramczyk, M. (*Wiedem. Ann. Phys.*, lxiv., p. 625).

"The Heat Emission of Rock-salt."

Abt, Anton (*Weidem. Ann. Phys.*, lxviii., p. 658); [*Bodländer. Chem. Centr.-Blat.*, 1899, ii., p. 568].

"The Magnetic Properties of Hematite."

Barlow, Wm. (*Pro. Roy. S. Dublin*, viii., p. 527). (Also *Pro. Phy. Soc.*, xvi., p. 54.)

"A Mechanical Cause of Homogeneity of Structure and Symmetry Geometrically Investigated, with Special Application to Crystals and to Chemical Combination."

Baumhauer, H. (*Vh. G. Deutch. Nat. Ärzte.*, 1899, p. 190).

"Twining Formation of Crystals."

—— (*Zeit. Kryst. Min.*, xxxi., p. 252).

"Contribution to the Knowledge and Theory of the Twining Formation in Crystals."

—— (*Zeit. Kryst. Min.*, xxxii., p. 165).

"On the Crystal Form of Muscovite."

Becke, F. (*Min. Mitth.*, xviii., p. 556).

"The Determination of Plagioclase in Thin Sections, Perpendicular to *M* and *P*."

Beckenkamp, J. (*Zeit. Kryst. Min.*, xxxii, p. 9).

"The Symmetry of Crystals." The Chemical and electrical relations (etch figures), etc., of quartz and aragonite are investigated and their theories of structure.

—— (*Zeit. Kryst. Min.*, xxx., p. 66).

"The Calcite Occurrence of Nieder-Rabenstein."

—— (*Sitz. Phy. Würz.*, 1898, p. 28).

"The Kinetic Crystal Theory."

Beijerinck, F. (*Jahrb. f. Min.*, xi., B. B., 403).

"The Conducting Capacity of Minerals for Electricity."

Blum, L. (*Oest. Berg. Hüttenw.*, 1899, xlvii., p. 443); [*Chem.-Ztg.*, 1899, lxxiv., (Rep., p. 270)].

"Crystallized Zinc-oxide." In the masonry of a blast-furnace in Luxembourg a great mass of beautifully-formed crystals of chemically pure zinc-oxide were found.

Boeris, Giovanni (*Att. Soc. Ital.*, xxxviii., p. 17).

"On the Tridymite of St. Pietro Montagnon Negli Euganei." A crystallographic study with two plates.

Borel, Arnold (*Compt. rend.*, cxxviii., p. 1095).

"On the Magnetic Rotary Polarization of Quartz."

Brace, D. B. (*Philos. Mag.*, xlviii., p. 345).

"On Achromatic Polarization and Differential Double Refraction."

Brauns, Reinhard (*Jarb. Min. Beilage.*, xiii., p. 39).

"Observations on the Crystallization of Sulphur from its Fusion."

—— (*Ber. d. Oberhess Gesellsch f. Natur. n. Heilk. Giessen.*, 1899, xxxiii., p. 6).

"On the Crystallization of Sulphur from Fusion."

Breon, Rene (*Bul. Soc. G.*, xxvi., p. 455).

"On the Crystalline Quartz of the Sands in the Environs of Bourboule."

Brugnatelli, Luigi (*Ren. Inst. Lomb.*, xxxii., p. 1405).

"Octahedrite and Brookite from Valtellina."

—— (*Zeit. Kryst. Min.*, xxxi., p. 54).

"On an Apparently New Mineral from the Asbestos Mine of Val-Brutta (Veltlin)." An apparently orthorhombic hydrous basic magnesium carbonate, which occurs in white flakes, accompanied by asbestos, calcite and magnetite; it has a sp. gr. of about 2.013.

Cesaro, G. (*Mem. Acad. Belg.*, liii., art. 4),

"Description of the Mineral Phosphates, Sulphates and Carbonates of Belgium." A memoir of 136 pages, with 54 figures.

—— (*Mem. Acad. Belg.*, liii., art. 1).

"On the Application of Calculus to Petrography."

Crismer, L. (*Bul. Ch. Belge.*, xi., p. 318).

"On the Formation of Crystals."

Currie, James (*Geol. Mag.*, v., p. 527).
"On Scottish Orthite."
—— (*Trans. Edinb. Geol. Soc.*, vii., p. 490).
"Note on the Feldspars of Canisp, Sutherland." The orthoclase and albite occur here in single crystals and in twins, which are described.

D'Achiardi, G. (*Att. Soc. Tosc.*, xi., p. 153).
"On the Optical Anomalies of Garnet from Affaccata, Elba."
"On the Optical Relation of the Fluorites of Gerfalco and Giglio."

Daly, R. A. (*Pro. Am. Acad.*, xxxiv., p. 311).
"On the Optical Characters of the Vertical Zone of Amphiboles and Pyroxenes, and on a New Method of Determining the Extinction Angles of these Minerals by Means of Cleavage Pieces."
—— (*Pro. Am. Acad.*, xxxiv., p. 373); (*Bul. Mus. d'Hist. Nat.*, 1899, p. 57); (*Bul. Soc. Min.*, xxii., p. 133).
"A Comparative Study of Etch Figures. The Amphiboles and Pyroxenes."

Dongier (*Jour. de Physique*, vii., p. 637).
"The Rotation Capacity of Quartz for Infused Rays."
—— *Jour. de Physique*, vii., p. 643).
"On the Method of Control of the Orientation of a Polished Surface of a Quartz Plate Perpendicular to the Axis of a Thick Quartz Plate."

Duparc, L. and **Pearce, F.** (*Arch. Sc. Phy. Genive.*, iii., p. 1).
"The Application of Slices in Determined Zones for the Determination of Feldspars."

Eakle, A. S. (*Zeit. Kryst. Min.*, xxxi., pp. 209).
"Myargyrite from Zacatecas, Mexico." Extensive crystallographic measurements are given.

Ewell, Arthur W. (*Am. Jour. Sci.*, viii., p. 97).
"Rotatory Polarization of Light in Media Subjected to Torsion."

Frischauf, J. (*Zeit. Kryst. Min.*, xxxi., p. 280).
"Proof of the Zone Laws."

Gembock, H. (*Zeit. Kryst. Min.*, xxxi., p. 248).
"Alpine Corderite-Pinite."

Goldschmidt, V. (*Zeit. Kryst. Min.*, xxix., p. 38).
"The Combination of Crystal Particles."
—— (*Zeit. Kryst Min.*, xxxi., p. 468).
"Trögerite and Artificial Uranospinite." Trögerite appears tetragonal, but is optically biaxial (monoclinic). Artificial uranospinite occurs in tetragonal crystals optically uniaxial, while the natural, according to Weisbach, is biaxial.
—— (*Zeit. Kryst. Min.*, xxix., p. 38).
"The Development of Crystal Particles."

—— (*Zeit. Kryst. Min.*, xxxii., p. 49).

"On the Subdivisions of the Crystal Systems."

—— (*Zeit. Kryst. Min.*, xxxi., p. 135).

"On the Crystal Systems and their Definition and Discernment."

—— (*Zeit. Kryst. Min.*, xxxi., p. 223).

"On Crystal Modeling Apparatus."

—— (*Zeit. Kryst. Min.*, xxxi., p. 57).

"The Definition of Twinings."

—— and **Wright, Fr. E.** (*Zeit. Kryst. Min.*, xxx., p. 300).

"On Orthoclase Twining."

Gonnard, Ferdinand (*Bul. Soc. Min.*, xxii., p. 92).

"On a Group of Quartz Crystals of Striegan, Silesia."

—— (*Bul. Soc. Min.*, xxii., p. 94).

"Crystallographic Study of the Quartz from the Marl of Meylan (Isère)."

Gumlich, E. (*Wiedem. Ann. d. Phys.*, lxiv., p. 333).

"Rotation Dispersion and Temperature Coefficient of Quartz."

Hlawatsch, C. (*Zeit. Kryst. Min.*, xxxi., p. 1).

"The Current Planes and Etching Phenomena of Stolzite, and the Element P_0 of Raspite."

—— (*Zeit. Kryst. Min.*, xxix., p. 130).

"Stolzite and Raspite from Broken Hill." Crystallographic measurements are given.

Horn, G. (*Jahrb. f. Min.*, 1899, B. B. xii., pt. 2, p. 269).

"Contribution to the Knowledge of the Dispersion of Light in Absorbent Crystals."' I. The theory of mica compensations. II. The relations of the indices of refraction and the index of absorption from the relative amplitude relations and the relative phase difference. III. Description of the Spectrometers.

Ives, Henry G. (*Min. Col.*, vi., p. 5).

"Isomorphism as Exemplified in the Spinel, Calcite and Aragonite Groups."

Iwasaki, C. (*Am. Jour. Sci.*, viii., p. 157).

"Orthoclase Crystals from Shinano, Japan." Simple and Bavéno twins, trillings and fourlings are described.

Kaiser, E. (*Zeit. Kryst. Min.*, xxxi., p. 24).

"Mineralogical Communications from the University of Bonn." Melonite and nephelite from Vesuvius. The relationship of nephelite and davynite, natrolite, thompsonite and apophyllite and their associates from Transylvania. Aluminite from near Bonn, sphalerite from Adenan, and cerrusite from Rheinbreitbach and Honnef, Rhein province, are the minerals crystallographically described.

Kampfer, Dr. (*Jb. Ver. Nat. Brau.*, 1899, p. 96).

"Production of Artificial Crystals." The advantages to be derived from a comparative study of salts during the growth of crystals and minerals are shown.

Keilhack, K. (*Naturw. Wochensch.*, xiv., p. 34).

"Illuminescence of Minerals." The property of certain minerals to fluoress with the X-Rays is discussed.

Klein, C. (*Ber. Ak. Berlin*, 1898, p. 676).

"On the Optical Anomalies of Garnets, and New Experiments to Explain Them."

—— (*Ber. Ak. Berlin*, 1898, p. 317).

"The Application of the Method of Total Refraction to Petrography."

—— (*Ber. Ak. Berlin*, 1899, p. 346.)

"Optical Studies." The optical constants of anorthite from Vesuvius, etc.

Kreia, D. A. (*Am. Jour. Sci.*, viii., p. 133).

"Method for the Detection and Separation of Dextro and Laevorotating Crystals, with Some Observations Upon the Growth and Properties of Crystals of Sodium Chlorate."

Krejce, Aug. (*Sitz. Ges. Wiss. Prag.*, 1898, art. ix).

"Contribution to the Morphology of Titanite." Numerous measurements of angles of crystals are given.

Küster, F. W. (*Jb. Ges. Vat. Cul. Breslau*, 1898, pt. ii., p. 30),

"The Rapidity of Crystallization."

Lehmann, O. (*Jh. Ver Würt.*, 1899, p. 58).

"Crystal Structure and Liquid Crystals."

Martin (*Ver K. Aka. Amsterdam*, vi., p. 421).

"Announces the Discovery of a Gold Crystal in Brazil which is Perfectly Tetragonal."

Meyerhoff, W. (*Zeit. Phy. Ch.*, xxix., p. 661).

"The Change of Volume which Accompanies the Alteration of Boracite." It is shown that the alteration from the rhombic to the regular boracite is accompanied by a contraction of volume.

Millosevich, F. (*Att. Acc. Lincei.*, vii., Sem. 2, p. 249).

"The Crystal Form of Sulphur and Other Minerals from Malfidano, Sardinia."

—— *Att. Acc. Lincei.*, viii., Sem. 1, p. 344).

"Celestite of Strongoli, Calabria, Italy." A crystallographic study.

Minchin, Ed. A. (*Pro. Roy. Inst.*, xv., p. 723).

"Living Crystals."

Moberg, Joh. Chr. (*Geol. För. Förh.*, xxi., p. 349).

"Some Calcite Crystals from Nordmarken." A crystallographic study.

Moses, Alfred J. (*Sch. Mines Qr.*, xx., p. 107).

"An Introduction to the Study and Experimental Determination of the Characters of Crystals."

Mügge, O. (*Jahrb. f. Min.*, 1899, ii., p. 55).
"New 'Structure Planes' on the Crystals of the Native Metals."
—— (*Nachr. K. Ges. Wis. Göt.*, 1899, pt. i., p. 66).

Nicol, Wm. (*Car. Rec. Sci.*, vii., p. 477); (*Zeit. Kryst. Min.*, xxxi., p. 53).
"Crystallized Pyrrhotite from Frontenac county, Canada." Measurements of crystals are given.

Palache, C. (*Am. Jour. Sci.*, vii., p. 367); (*Zeit. Kryst. Min.*, xxxi., p. 529).
"Powellite Crystals from Michigan." Occurs in South Hecla Copper Mine, Houghton, Michigan, in tetragonal crystals, near scheelite in form.
—— (*Am. Jour. Sci.*, viii., p. 299).
"Epidote and Garnet from Idaho."

Pelikan, A. (*Min. Mitth.*, xix., p. 106).
"The Augite from the Crystalline Limestone of the Moravian-Altstadt, Goldenstein."

Pulfrich, C. (*Zeit. Kryst. Min.*, xxx., p. 568).
"On the Applicability of the Method of Total Reflection to Small and Imperfect Crystal Planes."
—— (*Zeit. Kryst. Min.*, xxxi., p. 372).
"Observation on the Compensation Method of Mr. A. E. Tutton, and on the Application of Quartz as a Comparison body in Dilatometric Measurements."

Reed, J. O. (*Wiedem. Ann. d. Phys.*, lxv., p. 707).
"On the Influence of Temperature on the Refraction and Dispersion of Some Crystals and Glasses."

Renard, A. F. (*Bul. Acad. Belg.*, 1899, p. 537).
"Researches on the Structure of the Chondrodites of Meteorites."

Ries, Heinrich (*Trans. N. Y. Acad.*, xvi., p. 327).
"Allanite Crystals from Minerville, N. Y."
—— (*Trans. N. Y. Acad.*, xvi., p. 329).
"Note on a Beryl Crystal from New York City."

Riva, Carlo (*Att. Acc. Lincei.*, viii., Sem. 1, p. 347).
"Brochantite from Rosas, Sulcis." Measurements of the Crystal.

Rubens, H. and **Aschkinass, E.** (*Wiedem. Ann. d. Phys.*, lxv., p. 241).
"The *Reststrahlen* (Rest rays) of Halite and Sylvanite."

Rucker, A. W. and **White, W. H.** (*Pro. Roy. Soc.*, lxiii., p. 460).
"On the Determination of the Magnetic Susceptibility of Rocks."

Scacchi, Eugenio (*Ren. Sci. Napoles*, v., p. 164).
"Crystallized Hauerite from Sicilia."

Scharizer, R. (*Zeit. Kryst. Min.*, xxx., p. 299).
"Barite from Binnenthale."

Schroeder van der Kalk, J. (*Zeit. Anal. Chem.*, 1899, xxxviii., p. 615); [*Chem.-Ztg.*, 1899, c. (Rep., p. 374)].

"Microscopic Determination of Minerals, According to their Indices of Refraction." The author uses sixteen liquid organic bodies for comparing the refraction.

—— (*Zeit. Anal. Chem.*, xxxvii., p. 525).

"A Brief Introduction to the Microscopic Determination of Crystals."

—— (*Zeit. Anal. Chem.*, 1899, p. 615).

"Tables for the Microscopic Determination of Minerals, According to their Indices of Refraction."

Sollas, W. J. (*Pro. Roy. Soc.*, lxiii., pp. 270–300).

"On the Intimate Structure of Crystals—Crystals of the Cubic System with Cubic Cleavage."

Solomon, W. (*Zeit. Kryst. Min.*, xxx., p. 605).

"On a New Manner of Formation of the Third Modification of Sulphur."

—— (*Zeit. Kryst. Min.*, xxxi., p. 276).

"Remarks on the Author's Previous Notice: On a New Manner of Formation of the Third Modification of Sulphur."

Sommerfeldt, E. (*Jahrb. f. Min.*, 1899, i., p. 152).

"The Alteration of the Angles of the Optical Axes of Lithiophylite with the Temperature."

Spencer, L. J. and Prior, G. J. (*Min. Mag.*, xii., p. 55).

"Plagionite, Heteromorphite and Semseyite as Members of a Natural Group of Minerals."

Spring, W. (*Jahrb. f. Min.*. 1899, ii., p. 99).

"The Origin of the Blue Color of Water."

—— (*Jahrb. f. Min.*, 1899, i., p. 47); (*Arc. Sci. Phy. Nat.*, v., p. 5).

"The Ferruginous Coloring Matter of Sedimentary Earth and the Apparent Origin of Red Rocks."

Stöber, F. (*Bul. Soc. Min.*, xxii., p. 42).

"On a Method of Drawing Crystals."

—— ("*Bul. Soc. Min.*, xxii., p. 61).

"On the Procedure for the Cutting of Mineral Grains in Thin Slices."

Stscheglaylew, J. (*Wiedem. Ann. d. Phys.*, lxiv., p. 325).

"On the Refraction Capacity of Hydrophane Saturated with Different Liquids."

Trouton, Fred. T. (*Pro. Roy. Soc. Dublin*, viii., p. 691).

"Arrangement of Crystals of Certain Substances on Solidification."

Tschernoff, D. (*Stahl. u. Eisen*, 1899, xix., p. 300); [*Chem.-Ztg.*, 1899, xxxiv. (Rep., p.118)].

"An Excellent Crystal of Iron." The crystal was 39 cm. long and found in the block of Martin steel.

Tutton, A. E. (*Zeit. Kryst. Min.*, xxxi., p. 383).

"On the Remarks of Dr. Pulfrich Concerning my Compensating Interference Dilatometer."

—— (*Zeit. Kryst. Min.*, xxx., p. 529).

"A Compensating Interference Dilatometer."

Vaahore, D. (*Bul. Acad. Belg.*, 1899, p. 494).

"Crystallographic Description of the Quartz of Quenast."

Vater, H. (*Zeit. Kryst. Min.*, xxxi., p. 538).

"The Influence of Mother Solution on the Crystallization of Calcium Carbonate."

Pt. VIII. "The Influence of Alkali Carbonate Solutions on Gypsum and Anhydrite." [See also *Ber. Verh. Leipzig*, li., p. 1.]

—— (*Zeit. Kryst. Min.*, xxx., p. 301).

"Remarks on the So-called Anomalous Etching Figures."

Viola, C. *Att. Acc. Lincei.*, viii., Sem. 1, pp. 400, 463, 490).

"Anorthite from Vesuvius." Crystals from here are measured.

—— (*Att. Acc. Lincei.*, viii., Sem. 1, p. 276).

"On the Determination of the Optical Constant of Crystals."

—— (*Att. Acc. Lincei.*, viii., Sem. 1, p. 336).

"The Asymmetry of Crystals."

—— (*Att. Acc. Lincei.*, viii., Sem. 1, pp. 535, 565).

"On Some Italian Minerals." Albite of the Carrara marble. Orthoclase of the Granite of Calabria; Muscovite of the Cave of Monte Orfano; Gypsum of the Mine of Romagna; Sanidin from Cimini, Rome, are the minerals crystallographically studied.

—— (*Att. Soc. Tosc.*, xi., p. 69).

"On Crystallography."

—— (*Zeit. Kryst. Min.*, xxxii., p. 113).

"Optical Studies of Some Italian Minerals." I. Albite from the Carrara Marble. II. Muscovite from Monte Orfano, Tago Maggiore. III. Gypsum from Romagna. IV. Orthoclase from the Granite of Calabria. V. Halite from Tungro, in Calabria. VI. Sanidin from Cimini, Rome.

—— (*Zeit. Kryst. Min.*, xxxii., p. 66).

"On a New Method for the Determination of the Three Principal Indices of Refraction of Any Double Refracting Crystal."

—— (*Zeit. Kryst. Min.*, xxxii., p. 77).

"On the Calculation of the Axial Angles of Biaxial Crystal from the Total Reflection of the Outside Angles.

—— (*Zeit. Kryst. Min.*, xxxi., p. 484).

"Contribution to the Knowledge of Anorthite from Vesuvius." A crystallographic study.

—— (*Zeit. Kryst. Min.*, xxxi., p. 97).

"Homegenity and Etching."

—— (*Zeit. Kryst. Min.*, xxxi., p. 40).

"The Determination of the Optical Constants of Any Orientated Biaxial Crystal Section."

Voigt, W. (*Nachr. k. Ges. Wis. Göt.*, 1898, p. 166.)

"Does Pyro-electricity Completely Reverse the Effects of Piezo-electricity?"

Von Fedorow, Engraph (*Sitz. Wiss. München.* 1898, p. 55).

"The Results of Feldspar Studies."

—— (*Zeit. Kryst. Min.*, xxxi., p. 579).

"The Optical Anomalies of Plagioclase."

—— (*Min. Mitth.*, xviii., p. 360).

"Refraction Axis of Feldspar."

—— (*Zeit. Kryst. Min.*, xxxii., p. 128).

"Pseudoabsorption."

—— (*Zeit. Kryst. Min.*, xxxii., p. 131).

"The Weiss Zone Laws and the New Crystallography without Calculation."

—— (*Zeit. Kryst. Min.*, xxxi., p. 579).

"Constancy in the Optical Anomalies of Plagioclase."

—— (*Zeit. Kryst. Min.*, xxxi., p. 21).

"A New Perception of Syngony, a Fundamental Conception of Crystallography."

—— (*Zeit. Kryst. Min.*, xxxi., p. 17).

"From the Domain of the Hypothetical." Crystal Structure and Symmetry.

—— and **Nikitin, B. W.** (*Extract d. l. Annuaire Geol. evein. d. l. Russia*, vol. iii., Liv. 7 ; *édité et rédigté par N. Krichtafovitsch Varsovie*, 1899).

"The Minerals of the Bogoslowchan Mountain District."

Walker, T. L. (*Am. Jour. Sci.*, vii., p. 199).

"Crystal Symmetry of the Minerals of the Mica Group." It is concluded that phlogopite, biotite and lithia micas are likely triclinic, as stated by Wük, and that muscovite is monoclinic.

Wallerant, F. (*Bul. Soc. Min.*, xxi., p. 268).

"Method for the Rapid Determination of the Feldspars in Rocks."

—— (*Compt. rend.*, cxxix., p. 775).

"On the Origin of the Symmetry in Crystallized Bodies and of Polymorphism."

—— (*Comp. rend.*, cxxviii., p. 131).

"On the Laws Governing the Formation of Twins, properly so-called."

—— (*Compt. rend.*, cxxviii., p. 448).

"Explanation of the Formation of Twins by Mechanical Action."

Weichman, Ferdinand G. (*Sch. Mines Qr.*, xx., p. 267).

"The Optical Behavior of Quartz Under Stress." This paper deals with changes in quartz used in optical instruments, such as sugar polariscopes, etc.

Winchell, N. H. (*Am. Geol.*, xxiii., p. 116).

"Chlorastrolite and Zonochlorite from Isle Royale." Chlorastrolite is considered to have "a strong individuality as to fiberous, stellate structure, and constancy of optical orientation, as well as to color." Zonochlorite is suggested to be a transition mineral, between mesolite and lintonite.

—— (*Am. Geol.*, xxiii., p. 41).

"Thalite and Bowlingite from the North shore of Lake Superior." Thalite is shown to differ from saponite, to which it has been referred, upon optical and chemical grounds. A new analysis is given. The optical character of a mineral replacing olivine, which is referred to bowlingite, is described.

—— (*Am. Geol.*, xxiii., p. 250).

"The Optical Characters of Jacksonite." It is shown that Minnesota jacksonite is very close to lintonite in optical properties and is probably monoclinic.

—— (*Am. Geol.*, xxiii., p. 176.)

"Common Zeolites of the Minnesota Shore of Lake Superior." Localities and means of optical distinguishment are given of the following: Stilbite, heulandite, laumontite, mesotype.

—— (*Am. Geol.*, xxiii., p. 317).

"Adularia and Other Secondary Minerals of the Copper-bearing Rocks." Wollastonite, prehnite and delessite are also described.

Winchell, A. N. (*Bul. Mus. d'Hist. Nat.*, 1899, p. 106).

"On Some Secondary Mineral of the Basaltic Rocks on the Northern Shore of Lake Superior (Minnesota)."

Worobieff, V. (*Zeit. Kryst. Min.*, xxxi., p. 52).

"On Antimonite from Brixlegg, Tyrol." Crystal measurements are given.

Wulfing, E. A. (*Jahrb. Min. Beilage*, xii., p. 405).

"The Theory of Observation in Convergent Light and Propositions for the Improvement of Axis-angle Apparatus."

Zimanyi, K. (*Zeit. Kryst. Min.*, xxxii., p. 125).

"An Axinite from Japan."

—— (*Zeit. Kryst. Min.*, xxxi., p. 353).

"Concerning the Rose Red Aragonite of Dognácska in the County of Krassó-Szörény." A crystal study.

Zschimmer, Eberhard (*Inaug. Diss. Jena.*, 1898). [See abst. by *Spencer* in *J. Chem. Soc.*, ccccxlv., p. 768].

"Alteration Products of Magnesia-Mica; Variation of the Optical Characters with the Composition." A study of the lepidomelane of Schneidemenüllerskopf, Thuringia. As weathering progresses, the indices of refraction, sp. gr. and pleochroism decrease and the opt axial-angle increases, which is a guide to the chemical compositio

IV.

General and Economic.

Aguilera, Jose G. (*Inst. Geol. Mex.*, 11, 1898).

"Geographical and Systematic Catalogue of the Minerals of th Republic of Mexico."

Anonymous (*Chem.-Ztg.*, 1899, p. 353).

"The Minerals of the Hawaiian Islands."

—— (*Stahl u. Eisen*, 1899, xix., p. 669); [*Chem.-Ztg.*, 1899, No. (Rep., p. 239)].

"The Iron-ore Mines of Rar-el-Maden, Algeria."

—— (*Glückauf*, 1898, xxxiv., p. 609); [*Chem.-Ztg.*, 1898, No. (Rep., p. 239)].

"A Find of Native Gold." The second greatest find in Russi the lump weighed 30.40 kg. It was found in the Gouv. Jenissei, o the Tschibishek River.

—— (*Glückauf*, 1899, xxxv., p. 855); [*Chem.-Ztg.*, 1899, No. (Ch. Rep., p. 355)].

"Iron, Manganese and Chrome-ore Occurrences in Russia an Some Countries Outside of Europe."

—— (*Glückauf*, 1898, xxxiv., p. 751); [*Chem.-Ztg.*, 1898, No. 85 (Re p. 265)].

"Borax Production in Chile."

—— (*Glückauf*, 1899, xxxv., p. 405); [*Chem.-Ztg.*, 1899, No. (Rep., p. 160)].

"The Silver and Copper-ores on Wässman Sea, in Sweden."

—— (*Glückauf*. 1898, xxxiv., p. 499); [*Chem.-Ztg.*, 1898, No. 61 (Re p. 190)].

"The Iron Ores of Ludoika, in Sweden."

—— (*Süd.-Afrikan. Wochenschr*, 1899, vii., p. 1395); [*Chem.-Ztg.*, 189 No. 60 (Rep., p. 215)].

"The Gold Occurrences of Formosa."

—— (*Glückauf*, 1899, xxxv., p. 579); [*Chem.-Ztg.*, 1899, No. (Rep., p. 227)].

"The Amber Workings in Samland (Prussia?)."

—— (*Süd.-Afrikan. Wochenschr.*, 1898, vi., p. 627); [*Chem.-Ztg.*, 189 No. 27 (Rep., p. 83)].

"A New Diamond Field." The new field is about ten miles fro Christiania, South Africa, on the Vaal River (about 900 yards ba from the river). It is in the ordinary alluvial gravel. The workin are the most primitive, and the underlying granite has not yet bee investigated.

—— (*Oest. Berg. Hütten.*, 1898, xlvi., p. 116); [*Chem.-Ztg.*, 1898, No. 27 (Rep., p. 83)].

"The Occurrence of Amber in America." Mention is made of the Cape Sable, Magothey River, in Maryland; Cañon Diablo, Arizona; Black Hills, South Dakota; Trenton and Camden, New Jersey; and Chesapeake and Delaware Canal localities. The American localities are concluded to be in a different geological horizon from the European ones.

—— (*Oest. Berg. Hütten.*, 1899, xlvii., p. 239); [*Chem.-Ztg.*, 1899, No. 46 (Rep., p. 172)].

"The Chocolate Nickel-ore of New Caledonia."

—— (*Oest. Berg. Hütten.*, 1899, xlvii., p. 419); [*Chem.-Ztg.*, 1899, No. 74 (Rep., p. 265)].

"Magnesite." Its value in furnace-linings, etc.

—— (*Oest. Berg. Hütten.*, 1899, xlvii., p. 627); [*Chem.-Ztg.*, 1899, No. 102 (Rep., p. 383)].

"Meteorites."

—— (*Chem.-Ztg.*, 1899, p. 192).

"The Metal and Mineral Production of the United States in the Year 1898."

—— (*Oest. Berg. Hütten.*, 1899, xlvii., p. 443).

"The Occurrence of Phosphorite in Luxemburg."

—— (*Stahl u. Eisen*, xviii., p. 1).

"Italian Graphite."

—— (*Oest. Berg. Hütten.*, 1898, xlvi., p. 749); [*Chem.-Ztg.*, 1899 (Rep., p. 36)].

"Uranium-ores in America."

—— (*Oest. Berg. Hütten.*, 1899, xli., p. 37); [*Chem.-Ztg.*, 1899, 18 (Rep., p. 53)].

"Gold-bearing Fossil Wood."

—— (*Génie Civil*, 1898, xxxii., p. 322); [*Chem.-Ztg.*, 1898, No. 75 (Rep., p. 238)].

"New Sphärosiderite Occurrences in Russia."

—— (*Chem.-Ztg.*, 1899, p. 875).

"The Occurrences of Minerals in the Province of Antofagasta, Chili."

—— (*Chem.-Ztg.*, 1899, p. 486).

"The Occurrence of Metals and Minerals in the Philippine Islands." Gold, lead, silver, copper, iron, sulphur, coal and Petroleum.

—— (*Chem.-Ztg.*, 1899, p. 380).

"Phosphate Industry in the United States, Particularly in South Carolina, in the Year 1898."

—— (*Chem.-Ztg.*, 1898, p. 588).

"The Condition of the Russian Platinum Industry."

—— (*Eng. Ming. Jour.*, lxviii., p. 461).

"Garnet Mines in the Adirondacks."

—— (*Sci. Am. Sup.*, lxviii., pp. 19, 825).

"Precious Stones of New York."

—— (*Eng. Ming. Jour.*, lxviii., p. 302).

"Lithium Minerals and their Utilization." (See also *Sci.* lxxxi., p. 219.)

—— (*Nature*, lx., p. 276).

"The Cosmic Origin of Moldavite."

—— (*Sci. Am.*, lxxxi., p. 214).

"The Island of Sulphur." A New Zealand Island with exten deposits of sulphur.

—— (*Nature*, lix., p. 558).

"Corundum and Its Uses." Reviews of the works of Holland the Indian deposits, and Holmes and Miller on the Appalach and Canadian occurrenccs respectively.

—— (*Sci. Am.*, lxxx., p. 356).

"Gold in the Philippines."

Artini, Ettore, S. C. (*Ren. Inst. Lomb.*, xxxii., p. 1048).

"Leadhillite of Sardinia."

Autenrieth, W. (*Chem.-Ztg.*, 1899, pp. 626–27).

"The Occurrence of Iodine in Cuprite and Malachite."

Bäckström, Helge (*Geol. För. Förh.*, xx., p. 295).

"Phenacite from Kragerö, Norway."

Baltzer, A. (*Mitt. Nat. Bern.*, 1897, p. 1).

"Notice on a Mineral Occurrence in Berneroberland."

Baret, Ch. (*Bul. Soc. Ouest. Franc.*, ix., pp. 125, 199).

"Graphite of the Côte du Cwisic."

—— (*Bul. Soc. Ouest. Franc.*, viii.).

"Mineralogie of Loire–Inférieure, France." An extensive me of 175 pages, illustrated by 19 plates of minerals, as found, an crystal drawings.

Bayard, M. (*Ann. Mines*, xv., p. 505).

"Note on the Beds of Iron Minerals of the Peninsulas of Ke and Taman, Russia.

Becke, F. (*Min. Mitth.*, xix., p. 166).

"Whewellite from Brüx."

Beck, R. (*Zeit. prakt. Geol.*, 1899, p. 65).

"Contribution to the Knowledge of the Brokenhill Region."

—— (*Zeit. prakt. Geol.*, 1899, p. 49).

"Silver-Ore Lodes with Quartz and Orthoclase as Gangue."

—— (*Zeit. f. Prakt. Geol.*, 1899, p. 1).

"On the Iron-Ore Deposits of Central Sweden."

—— (*Zeit. f. Prakt. Geol.*, 1899, p. 417).

"News from the African Diamond Fields."

Benge, Elmer (*Min. Col.*, vi., p. 141).

"The Occurrence of Quartz Crystals at Hintner's Limonite Pits, Marble Hall, Montgomery county, Pa." An interesting series of speculations as to their origin is indulged in to account for the occurrence.

Berwerth, F. (*Min. Mitth.*, xviii., p. 559); (*Mitt. d. naturw. Ver. f. Steierm.*, 1898, p. 187).

"A New Scheelite Occurrence in East Central Alps."

—— (*Ann. Mus. Wien.*, xiii., p. 115).

"A New Nephrite Occurrence in Steiermark" (Stiria, Austro-Hungary).

Beyschlag, Fr. (*Zeit. f. Prakt. Geol.*, 1898, p. 94).

"The Manganese Iron-Ore Deposits of the 'Linden Mark,' at Giessen, in Oberhessen."

Blake, Wm. P. (*Trans. Am. Inst. Ming. Eng.*, xxviii., p. 543).

"Hübnerite in Arizona." The author records the occurrence of hübnerite, associated with scheelite, in Cochise county, Arizona.

Blomecke, C. (*Oest. Berg. Hütten.*, 1898, xlvi., pp. 147, 168); [*Chem.-Ztg.*, 1898, No. 33 (Rep. p. 107)].

"The Magnetic Concentration of Non-Magnetic Minerals, According to the System of Wetherill, in Comparison with Other Methods." The superiority of the Wetherill System is shown, especially on dust, meal and weakly magnetic substances, like hematite, siderite, limonite, franklinite, garnet, etc.

Blue, Archibald (*Trans. Am. Inst. Min. Eng.*, xxviii., p. 565).

"Corundum in Ontario."

Bodenbender, W. (*Zeit. prak. Geol.*, 1899, p. 322).

"Bismuthinite Deposits."

Brown, C. S. (*Min. Col.*, vi., p. 10).

"Turquoise Mining on the Nevada Border."

Brugnatelli, L. (*Zeit. Kryst. Min.*, xxxii., p. 81).

"On an Alpine Occurrence of Chrysoberyl." It occurs in a quartz pegmatite with garnet at Veltlin, in the vicinity of Sondals, in tabular crystals {100}.

Brunlechner, August (*Jh. Mus. Kärnten*, xxv., p. 61).

"On the Origin and Sequence of the Bleiberg Ores and their Accompanying Minerals."

Callens, E. (*Rev. chim. ind.*, 1899, xxi., 187); [*Chem.-Ztg.*, 1899, No. 64 (Rep., p. 240)].

"Asbestos."

Canaval, Richard (*Jh. Mus. Kärnten*, xxv., p. 97).

"Contribution to the Knowledge of the Ore-occurrences of Irschen and Zwickenberg, near Oberchanburg." Carinthia.

—— (*Car. Mitth.*, 1898, p. 60).

"Zinc and Lead Deposits of the Radnig Mines, Hermager, Carinthia."

—— (*Car. Mitth.*, 1898, p. 183).

"Contribution to the Knowledge of the Ore-occurrences of Lamnitz and Wellathales, Carinthia."

—— (*Car. Mitth.*, 1899, p. 255).

"Mineralogical Communications from Carinthia."

Catlett, Charles (*Eng. Ming. Jour.*, lxviii., p. 157).

"The Iron Ores of the Potsdam Formation in the Valley of Virginia.

Carnot, Ad. (*An. Appl. Chem.*, iii., p. 82).

"On the Natural Phosphates." [See Hagelmann, *Chem. Cent.-Blatt.*, i., p. 1036.]

Cauffman, Jos. (*Min. Col.*, v., p. 187).

"The Chemical and Mineralogical Compounds of Barium."

Chadbourn, E. R. (*Sci. Am. Sup.*, xlviii., p. 19,667).

"Gems of Maine, U. S. A."

Chester, A. C. (*Zeit. Kryst. Min.*, xxx., p. 592).

"Krennerite from Cripple Creek, Colorado."

Claessen, C. (*Chem.-Ztg.*, xxii., 1898, p. 523).

"Dopplerite."

Claremont, Leopold (*Sci. Am. Sup.*, lxviii., p. 19,297).

"How to Identify Precious Stones."

Clough, C. T., and **Pollard, W.** (*Q. J. Geol. Soc.*, lv., p. 372).

"On Spinel and Forsterite from the Glenelg Limestone, Inverness-shire."

Coda, —— (*Oest. Berg. Hüttenw.*, 1898, xlvi., p. 606.

"Mercury in Monteponi." [See *Chem.-Ztg.*, 1898, No. 91 (Rep., p. 274)].

Cramer, E. (*Thonind.-Ztg.*, 1898, xxii., p. 123).

"Contribution to the Knowledge of the Feldspars of Wunsiedel." An article on the utility of these feldspars in the manufacture of ceramics. [See *Chem.-Ztg.*, 1898, No. 33 (Rep., p. 105)].

Crooks, Wm. (*An. Rept. Smi. Inst.*, 1897, p. 219).

"Diamonds." Describes a trip to the South African fields. Discusses the chemical and physical properties and speculates on the origin of the deposits.

Dailey, J. Glanding (*Pro. Acad. Nat. Sci.*, 1899, p. 377).

"Monazite in Delaware County, Pennsylvania." Records the discovery of crystals in the gneiss which are proved to be monazite.

Demel, W. (*Chem.-Ztg.*, 1898, p. 558).

"Dopplerite."

Diller, J. S. (*Min. Col.*, vi., p., 109).

"Marcasite Concretions from Thatcher, Colorado."

Dinsmore, Alice, (*Sci. Am. Sup.*, lxviii., p. 19,662).

"A Visit to the Quarries at Bedford, N. Y." A collecting trip of

New York Mineralogical Club to Kinkel's Quarry, finding quartz and feldspar crystals and coatings of autunite.

Drake, Frank (*Trans. Am. Inst. Min. Eng.*, xxviii., p. 191).
"The Manganese-Ore Industry of the Caucasus."

Duparc, L., and Ritter, Etienne (*Arc. Sci. Phy. Nat.*, v., p. 143).
"The Iron Minerals of D'ain-Oudres, Algeria."

Dvorsky, Fr. (*Ann. Mus. Brunæ*, 1897, p. 55).
"On Moravian Moldavite."

Erb, Joseph (*Nat. Ges. Zürich*, 1898, p. 276).
"An Occurrence of Fuchite (Chrome Mica) in the Swiss Alps."

Erdmann, Ed. (*Geol. För. Forh.*, xxi., p. 416).
"Precious Stones and Minerals Used for Gems and Jewelry."

Farrington, Oliver C. (*Sci. Am.*, lxxxi., p. 343).
"The Vienna Meteorite Collection."

Fiebelkorn, M. (*Sprechsaal*, 1898, xxxi., p. 326).
"Beauxite." Its occurrence and technical application. [See *Chem.-Ztg.*, 1898, No. 75 (Rep., p. 239)].

Foehr, Dr. (*Zeit. prak. Geol.*, 1899, p. 49).
"The Garnet of Brokenhill."

Foster, L. Le Mere (*Nature*, lix., p. 596).
"Sources of Important Minerals."

Frenzel, A. (*Min. Mitth.*, xviii., pp. 254, 367).
"On Mexican Meteoric Iron Masses." A note relating to the San Gregorio iron.

Fromme, J. (*Jh. Ver. Nat. Brau.*, 1898, p. 108).
"On Calcite from the Coral Rock Near Bremke, at Ith."

Fulton, R. L. (*Eng. Ming. Jour.*, lxviii., p. 64).
"Nevada Sulphur Deposits."

Gascuel, L. (*Ann. Mines*, xv., p. 205).
"Notes on the Gold Fields of Coolgardie." Calaverite, sylvanite, and hessite are noted from the Kalgoorlie District, West Australia.

Geinitz, E. (*Arch. Nat. Mech.*, 52 Jr., p. 61).
"On the Petroleum Occurrence of Baku, on the Caspian Sea."

Gentil, L. (*Bul. Mus. d'Hist. Nat.*, 1897, p. 337.)
"On a Deposit of Zeolites at Dellys, Algiers"
—— (*Bul. Mus. d'Hist. Nat.*, 1897, p. 258).
"On the Nadorite in Algiers."

Gimenez, L. Velazquez (*An. Soc. C.*, xlviii., p. 209).
"The Copper Industry of Chili."

Glangeaud, Ph. (*Compt. rend.*, cxxix., p. 975).
"The Cretaceous Minerals of Aquitaine."

Goguel, M. H. (*Pro. Sci. Bor.*, 1898, p. 155).
"Project to Obtain the Mineralogical Statistics of the Region Southeast of the Pyrénées."

Gomes, J. P. (*Com. Geol. Portugal*, iii., p. 244). [See *Hazard Chem. Cent.-Blatt.*, 1900, i., p. 314.]
" Bitumen of Libollo, Province d'Angola."

Grabau, A. W. (*Min. Col.*, vi., p. 136).
" The Emery Mines at Chester, Mass."

Greven, Fr. (*Stahl u. Eisen*, 1898, xviii., p. 1).
" The Occurrence of Oolite Iron-Ores in the Southern part of German Lothringia."
—— (*Stahl u. Eisen*, 1899, xix., p. 439). [See *Chem.-Ztg.*, 1899, No. 42 (Rep., p. 160).]
" Manganese Ores in Brazil."

Grimsley, G. P. (*Eng. Ming. Jour.*, lxviii., p. 487).
" The Gold Deposits of Nevada county, California."

Gurich, G. (*Zeit. prak. Geol.*, 1899, p. 173).
" The Distribution of Ore Deposits."

Hamilton, S. Harbert (*Min. Col.*, vi., p. 117).
" Exploration of the Delaware Valley." Describes the minerals observed from the " Water Gap " to Philadelphia.

Hages, C. W. (*Glückauf*, 1898, xxxiv., p. 606). [See *Chem.-Ztg.*, 1898, No. 75 (Rep., p. 238).]
" The Phosphate of Tennessee." The geological relations of these deposits.

Heddle, M. P. (*Trans. Edinb. Geol. Soc.*, vii., p. 326).
" The Minerals of the Storr, Scotland." The minerals described are mostly zeolites, which occur in the Igneous rock.

Heingartner, Alexander, and **Howe, Church** (*Sci. Am. Sup.*, xlviii., p. 19753).
" Reduction of Sulphur-Ore in Sicily."

Heiser (*Glückauf*, 1898, xxxiv., 529). [See *Chem.-Ztg.*, 1898, No. 6, (Rep., p. 190).]
" The Manganese-Ore Occurrence in the District of Biedenkopf." A pyrolusite yielding about 55 per cent. Mn.

Hintze (*Jb. Ges. Vat. Cul.*, 1897, p. 44).
" The Gold Occurrence of Löwenberg."

Hobbs, W. H. (*Jour. Geol.*, vii., p. 375).
" The Diamond Field of the Great Lakes." The seventeen stones found in the morains of Wisconsin, etc., are shown to have been imported from Canada with the great ice-sheet, and the possible original home may have been in the rock about Hudson Bay, where these diamond-bearing glaciers had their *névés*.

Hoernes, R. (*Mitth. Steierm. Gewerbe-Vereines*, 1898, Nos. 1 and 2).
" The Petroleum Occurrence of Buku, Caspian Sea."

Hoffmann, L. (*Glückauf*, 1899, xxxv., p. 640). [See *Chem.-Ztg.*, 1899, No. 74 (Rep., p. 265).]

"The Occurrence of Oolitic Iron-Ore (Minette) in Luxemburg and Lothringia." The principal constituents of the ores are iron-hydroxide, calcium carbonate, silicic acid and clay. $Fe = 34 - 39$; $CaO = 5 - 15$; Al_2O_3, $4 - 8$; SiO_2, $8 - 30$. [See also *Vh. Ver. Bonn.*, 1898, p. 109.]

Holder, Charles F. (*Sci. Am.*, lxxxi., p. 393).

"A California Verde Antique Quarry."

olroyd, W. F. (*Trans. Manchester Geol. Soc.*, xxvi., p. 46).

"On the Superposition of Quartz Crystals on the Calcite in the gneous Rocks Occurring in the Carboniferous Limestone of erbyshire."

opkins, T. C. (*Sci. Am. Sup.*, xlviii., p. 19,993).

"The Mining and Preparation of Kaolin."

— *Jour. Frank. Inst.*, cxlviii., p. 1).

"Feldspars and Kaolins of Southeastern Pennsylvania."

ovey, E. O. (*Bul. Am. Mus.*, xii., p. 189).

"Note on a Calcite Group from Bisbee, Arizona."

owitt, A. W. (*Rept. Aust. Assoc.*, vii., p. 375).

"On Oligoclase Feldspar from Mount Anakies, in Victoria."

ussak, Eugen. (*Min. Mitth.*, xviii., p. 334).

"Mineralogical Notices from Brazil." A contribution to the nowledge of the so-called "Favas" of the Brazilian diamond sand. he mineral associations of the Bahiaian diamonds.

mler, A. (*Vh. G. Reichs.*, 1899, p. 85).

"On the Gold Occurrence of Brazná, in middle Bohemia."

— (*Casopis p. prumysl. Chemicky*, 1899, ix., p. 48). [See *Chem.-Ztg.*, 1899, No. 62 (Ch. Rep., xxiii., p. 227).]

"Gold."

hn, Jaroslav, (*Casopis p. prumysl. Chemicky*, 1899, ix., p. 44). [See *Chem.-Ztg.*, 1899, No. 62 (Rep., p. 227).]

"Moldavite."

— (*Vh. G. Reichs.*, 1899, p. 81).

"On the Occurrence of Moldavite in the North Bohemian Pyrope ands."

nbo, Kotora, (*Jour. Uni. Tokyo*, xi., p. 213).

"Notes on the Minerals of Japan." A descriptive catalogue of apanese minerals are here given which shows the occurrence of any interesting specimens found in this empire.

uffre, Jules (*Bul. Soc. Chim.*, xxi., p. 511).

"Remarks on Phosphates."

udd, J. W., Hidden, W. E., Pratt, J. H. (*Min. Mag.*, xii., p. 139); (*Am. Jour. Sci.*, viii., p. 370).

"On a New Mode of Occurrence of Ruby in North Carolina." he locality here described has many points of resemblance to the urmah occurrences, to which it is compared. Garnet crystals are noted as inclusions, as well as rutile and ilmenite. The crystals are usually the tabular form found in igneous rocks. Alterations are common. The locality is Cowee Valley, associated with rodolite, etc.

Kaiser (*Sitz. Ges. Bonn*, 1899, p. 31).

"The Minerals of the Gold Deposits of Guanaco, Chili."

Katzer, F. (*Oest. Berg. Hüttenw*, xlvi., 1898, p. 41).

"The Manganese Ore from the District of the Amazon."

Kemp, J. F. (*Sch. Mines Qr.*, xx,, p. 323; xxi., p. 56).

"A Brief Review of the Titaniferous Magnetites."

Kersting, Paul (*Chem. Ind.*, xxi., p. 171).

"The Characteristics of Asbestos from Different Places."

Kossman, B. (*Stahl u. Eisen*, 1898, xviii., p. 357).

"The Clay Iron-Stone Deposits in the Bentheim-Ochtruper Mulde." [See *Chem.-Ztg.*, 1898, No. 45 (Rep., p. 129).]

Kretschmer, Franz (*Jh. K. K. Geol. Reich.*, xlix, p. 29).

"The Iron-ore Deposits of the Moravian Devonian."

Krusch, P. (*Zeit. prak. Geol.*, 1899, p. 83).

"A Copper-ore Lode in Lower California."

Krusch, J. (*Zeit. prak. Geol.*, 1899, p. 47).

"New Disclosures in the Northern Caucasus of Lead and Zinc Deposits."

Kunz, G. F. (*Am. Jour. Sci.*, vii., p. 242).

"Native Silver in North Carolina." Notes the occurrence of several pounds of crystallized silver with mixed lead-zinc sulphides at Silver Hill Mine, Davidson county, N. C.

—— (*Am. Rept. U. S. Sur.*, 1898–99, Pt. vi., pp. 5–48).

"The Production of Precious Stones in 1898."

Lacroix, A. (*Bul. Mus. d'Hist. Nat.*, 1898, p. 291).

"Material for a Mineralogy of Madagascar."

Lang, O. (*Stahl u. Eisen*, 1899, xix, pp. 71, 715).

"The Formation of the Oolithic Iron-ore of Lothringia." The author points out the probability that solutions of iron alter materials into iron-ore, if these materials are constituted like aragonite, but not when they are constituted like calcite." [See *Chem.-Ztg.*, 1899, No. 68 (Rep., p. 259).]

Lapparent, Mde. (*Compt. rend.*, cxxix., p. 664).

"On the Intervention of Plants in the Formation of Calcareous Tufa." The author points out that the observation of M. Meunier (which see) concerning the function of plant life in the formation of tufa was noted in 1862 by Cohm.

La Valle, G. (*Att. Acc. Linc.*, vii., Sem. 2, p. 68).

"Some Cobalt and Nickel Minerals New to the Province of Messina." The rare mineral symplesite is among those noted.

Law, E. Stanley (*Min. Col.*, v., p. 22).

"Cinnabar." A popular account of this mineral.

Levat, David (*Compt. rend.*, cxxvii., p. 834); (*Ann. Mines*, xv., p. 5).
"The Black Phosphates of the Pyrenees." Black nodules containing 65–75 per cent. tri-calcium phosphate."

Lloyd, Herbert (*Trans. Manchester Geol. Soc.*, xxv., p. 474).
"On the Mineral Resources of the Middelberg District, Transvaal, South Africa."

Lotti, B. (*Zeit. f. prak. Geol.*, 1899, p. 354).
"A Deposit of Native Copper Near Pari, in Toscana."

Louis, David A. (*Oesterr. Zeit. Berg.-u. Hüttenw.*, 1899, xlvii., p. 633).
"The Great Magnetite Deposits of Swedish Lapland." [See *Chem.-Ztg.*, 1900, No. 8, (Rep., p. 14).]

Lovisato, Domenico (*Att. Acc. Lincei.*, vii., Sem. 1, p. 246).
"Notes Upon Some Mineral Species New to Sardinia."

Lowag, Jos. (*Glückauf*, 1898, xxxiv., p. 837).
"Communications on Gold, Iron and Other Ore Occurrences in Moravia and Austrian Silesia." [See *Chem.-Ztg.*, 1898, No. 97 (Rep., p. 296).]

—— (*Glückauf*, 1899, xxxv., p. 163).
"The Iron-Ore Occurrence of Freudenthal, in Austrian Silesia." [See *Chem.-Ztg.*, 1899, No. 32, (Rep., p. 105).]

Lucas, A. F. (*Eng. and Min. Jour.*, lxviii., p. 577).
"Rocksalt in Louisiana."

Macco, A. (*Zeit. prak. Geol.*, 1899, p. 181).
"The Relationship between Plants and Ore-deposits."

de Madus, May. (*Oest. Berg. Hüttenw.*, 1898, lxvi., 499).
"The Gold-fields in Cărnthia." [See *Chem.-Ztg.*, 1898, No. 75 (Rep., p. 238).]

Manasse, E. (*Att. Soc. Tosc.*, xii., p. 104).
"Notice of a New Mode of Occurrence of Tourmaline, in Elba."

McMahon, C. A. (*Geol. Mag.*, vi., p. 194).
"Allanite in the Granite of Lairg, Sutherlandshire."

Merrill, F. J. H. (*Bul. N. Y. Mus.*, iv., No. 19).
"A Guide to the Study of the Geological Collections of the New York State Museum."

Moody, Pearson J. (*Pro. S. W. Inst. Eng.*, xxi., p. 353).
"Notes on the Coal-beds of Queensland."

Mrazec, L. (*Bull. Soc. Sci. Bucharest*, viii., p. 106).
"Riebeekite and Ægerite in Granite from Turcoaia, Roumania." A gray granite carries the following minerals: magnetite, allanite (?), zircon, ægerite, riebeekite, albite, anorthoclase, orthoclase, quartz, hæmatite, limonite, epidote and chlorite.

Muller, G. (*Zeit. prak. Geol.*, 1899, pp. 193, 277, 314).
"On the Distribution of the German Turf Moors."

Nicholas, H. W. (*Field. Col. Mus. Geol.*, i., No. 3).
" The Ores of Colombia, from Mines in Operation in 1892." Part of a collection of typical ores and accompanying gangue sent to the " World's Fair " has been worked over, and is here described."

Nordenskjold, Otto (*Zeit. f. prak. Geol.*, 1899, p. 71).
" The Geological Relations of the Klondike Gold-deposits."

—— (*Bul. Geo. Upsal.*, iv., p. 28).
" Some Ore-deposits of the Atacama Desert."

Nitze, H. B. C. (*J. Frank. Inst.*, cxlvii., p. 442).
" The Iron-ores of the Ural Mountains, Russia."

Oehmichen, Hans (*Zeit. prak. Geol.*, 1899, p. 271).
" The Gold-bearing Cobatiferous Deposits of the Transvaal."

Ohly, Julius (*Chem.-Ztg.*, 1898, p. 60).
" Gold in Granite; Free Natural Silver in Galenite."

Ohm, Heinrich (*Jarb. Min. Beilage*, xiii., p. 1).
" On the White-lead Ore of the Mine ' Perm,' Ibbenbüren and Some Other White-lead Ore Occurrences of Westphalia."

Palmer, R. H. (*Eng. and Min. Jour.*, lxviii., p. 694).
" A Graphite Mine." Describes the graphite industry of Cranston, R. I. Plant fossils, such as lepidodendron, are stated to occur in the graphite.

Petermann, A. (*Bul. Ch. Belge.*, xiii., p. 330).
" Utilization of the Belgian Peats."

Prost, A. (*Ann. Mines*, xv., p. 533).
" Note on the Iron Minerals of Meknas and Nefzas, Tunis." Many analyses are given.

R. L. ——— (*Nature*, lx., p. 150).
" The Fresh-water Pearls of America."

Rebufatt, O. (*Gaz. Chi. Ital.*, xxviii., p. 209).
" Studies on the Constitution of Hydraulic Cements."

Reis, Otto M. (*Zeit. prak. Geol.*, 1899, p. 153).
" On the Salt Deposits of the Neckar."

Riva, C. (*Zeit. Kryst. Min.*, xxxi., p. 532).
" Some Minerals from Rosas, Sardinia." The most important are allophane, linarite, azurite, malachite, calamine, cerrusite, cuprite and brochantite.

Rickard, Forbes (*Trans. Am. Inst. Ming. Eng.*, xxviii., p. 108).
" Notes on the Vein Formation and Mining of Gilpin county, Colorado."

Rolland, Georges (*Stahl u. Eisen*, 1898, xviii, p. 219).
" The Oolitic Iron-Ore Deposits of the Basin of Briey (Meurthe et Mosale)." [See *Chem.Ztg.*, 1898, No. 33 (Rep., p. 105).]

Ross, A. C. (*Eng. Ming. Jour.*, lxviii., p. 370).
" Tungsten Ore in Cape Breton."

Rżehak, A. (*Vh. G. Reichs.*, 1898, p. 415).
" On the Origin of Moldavite."

Söhle (*Oest. Berg. Hütten.*, xlvii., p. 563).

"Contributions to the Knowledge of the Ore Deposits of Rammelsberg, near Goslar."

Spaulding, M. B. (*Sch. Mines Qr.*, xx., p. 41).

"The Silver-Pick Mine, Wilson, Colorado." Some notes on the rocks are given.

Spencer, J. L. (*Rept. Bri. Assoc.*, 1898, p. 875; also *Geol. Mag.*, vi., p. 71).

"Leadhillite in Ancient Lead Slags from the Mendip Hills."

—— (*Rept. Bri. Assoc.*, 1898, p. 875; also *Geol. Mag.*, vi., p. 75).

"Supplementary List of British Minerals." This list adds 84 more to the previous list of British minerals (Greg and Lettsom's), bringing the total up to 824 species.

Steltzner A. W. (*Oest. Berg. Hütten.*, 1898, xlvi., p. 99).

"The Silver-Tin-Ore Deposits of Bolivia." I. Gold-bearing granite. II. Post-jurassic and pre-cretaceous diorite, carrying silver and copper sulphides and arsenites; also lead and zinc ores and gold-bearing pyrite. III. Silver ores and argentiferous tetrahedrite and tin and bismuth ores, occurring in recent volcanic rocks and in granite.

Stephens, Francis J. (*Trans. Geol. Soc. Cornwall*, xii., p. 241).

"Recent Discoveries of Gold in West Cornwall, England." Records the occurrence of traces of gold in the formations of the Cornwall district, and gives sketches of the other known gold occurrences in the British Isles.

Suess, Franz E. (*Vh. G. Reichs.*, 1898, p. 387).

"On the Cosmic Origin of Moldavite."

Taff, J. A. (*Am. Jour. Sci.*, viii., p. 219).

"Albertite-like Asphalt in the Choctaw Nation, Indian Territory."

Thomae, W. F. A. (*Trans. Am. Inst. Ming. Eng.*, xxviii., p. 208),

"Emery, Chrome-Ore and Other Minerals in the Villayet of Aidin, Asia Minor."

Tsuneto, K. (*Chem.-Ztg.*, 1899, pp. 800, 825).

"The Phosphate Deposits of Japan."

Turner, H. W. (*Am. Geol.*, xxiii., p. 182).

"The Occurrence and Origin of Diamonds in California." The author notes the localities at which diamonds have been found in the gold placers of California, as given by Whitney and Hanks. He then proceeds to discuss the recent works on the genesis of the diamond, especially those of Lewis, Crookes and de Launay, on the South African occurrence and Derby on the Brazilian.

—— (*Jour. Geol.*, vii., p. 389).

"Replacement Ore Deposits in the Sierra Nevada."

Valiant, W. S. (*Min. Col.*, vi., pp. 1, 29, 51, 67, 84, 93).

"A Collector's Paradise." Describes the minerals collected in St. Lawrence county, N. Y.

—— (*Min. Col.*, vi., p. 17).
"Alteration of Minerals in the Cabinet."

—— (*Min. Col.*, vi., p. 158).
"New Minerals Since 1892."

Van der Bellen, E. (*Protok. d. St. Petersb. polyt. Yer.*, 1899, p. 91).
"Asbestos and Its Application."

Verbeek, R. D. M. (*Zeit. prak. Geol.*, 1899, p. 134).
"The Tin Ore Deposits of Banca and Billiton."

Verneuil and **Wyrouboff** (*Bul. Mus. d'Hist. Nat.*, 1898, p. 169).
"On the Separation of the Oxides of Cerium, Thorium and the Other Earths of Cerite and Yttria."

—— (*Bul. Mus. d'Hist. Nat.*, 1898, p. 327).
"On the Industrial Extraction of Thorium."

Villain, P. M. (*Compt. rend.*, cxxviii., p. 1291).
"On the Genesis of the Iron-Ore of Lorraine." Arguments are brought forward in support of the theory that the oolitic ore of Lorraine is a littoral deposit, the mineralization of which has been effected by the action of hot springs in the bed of an ancient sea.

Vogt, J. H. L. (*Zeit. prak. Geol.*, 1899, p. 241).
"The Huelva Pyrite Fields of Southern Spain and Neighboring Parts of Portugal."

Weinschenk, E. (*Chem.-Ztg.* (Rep.), 1898, p. 323).
"Graphite Deposits in the Vicinity of Passaw and the Ore Deposits on Silberberge."

—— (*Ab. Aka. Münc.*, xix., p. 511).
"Contribution to the Knowledge of Graphite Deposits. A Chemical Geological Study." A work of fifty pages with twelve micrographs of sections.

—— (*Sitz. Wiss. Munchen.*, 1899, p. 137).
"On the Classification of Meteorites"

Woldrich, J. N. (*Bul. Intern. Prague*, v., p. 84).
"Contribution to the Moldavite Question."

Woodman, J. Edmund (*Pro. Bos. Soc.*, xxviii., p. 375).
"Studies in the Gold-Bearing Slates of Nova Scotia."

V.

LITHOLOGY.

Adams, F. D. (*Can. Rec. Sci.*, viii., p. 65).
"Studies in the Geology of the Vicinity of Montreal, which Might Be Undertaken by Members of the Natural History Society."

Anderson, F. M. (*Geol. Bul. Uni. Cal.*, ii., p. 119).
"The Geology of Point Reyes Peninsula, California."

Artini, E. and **Mariani, E.** (*Att. Soc. Ital.*, xxxvii., p. 244).
"Geological and Petrographical Observations on the Valley of Trompia."

Barvir, H. L. (*Sitz. Ges. Wiss. Prag.*, 1898, art. iii.).

"Examination of Gneisses of Burgruine Gans and the Mica schists of Eisenstein."

Barlow, A. E. and **Ferrier, W. F.** (*Geol. Mag.*, v., p. 39).

"Relation of Granite and Arkoses on Lake Temiscaming, Canada."

Barrow, G. (*Q. J. Geol. Soc.*, liv., p. 149).

"On the Occurrence of Chloritoid in Kincordineshire." Analysis gives SiO_2, 26.00; Al_2O_3, 40.05; FeO. 19.50; Fe_2O_3, 5.05; MgO, 2.88; Ign, 6.00; Mn, 0.02.

Bascom, Florence (*Am. Geol.*, xxiii., p. 275).

"On Some Dikes in the Vicinity of Johns Bay, Maine." Ophitic olivine diabase dikes of normal character and uncertain age are described cutting ancient (Laurentian) gneiss.

Bauer, M. (*Jahrb. f. Min.*, 1898, ii., p. 163).

"Contribution to the Geology of the Seyschellen in Particular to the Knowledge of the Laterites."

Bauer, K. (*Jahrb. f. Min.*, Beilgeband, xii., p. 535).

"Contribution to Experimental Petrography."

Becke, F. (*Min. Mitth.*, xviii, p. 525).

"On the Hypersthene-Andesite of the Island of Alboran."

—— **Berwerth** and **Gaubenmann** (*Sitz. Ak. Wis. Wien.*, 20 Jan., 1898).

"Report of the Petrographical Investigation of the Central Chain of the Central Alps."

Bergt, Walther.

"Geologische Studien in der Republik Colombia II." Petrography. The parent rock masses, crystalline schists and sediments.

Bertolio, Sollmann (*Ren. Inst. Lomb.*, xxxii., p. 1000).

"Microstructure of Comendite."

Bertrand, G. Eg. (*Mem. Uni. Lille.*, vi., No. 21).

"Bacteria in Cannel Coal." An extensive memoir of 218 pages with eleven plates, describing the occurrence of micro-organisms in coals and oilshales.

Bodmer-Beder, G. (*Jahrb. Min. Beilage*, xii., p. 238).

"Olivine Diabase from the Plessurgebirge, Grisons, Switzerland."

Böhmig, Paul Otto (*Min. Mitth.*, xviii., p. 261).

"Contributions to the Knowledge of the Rocks of Greifensteins."

Bonney, T. G. (*Nat. Sci.*, xv., p. 173).

"The Original Rock of the South African Diamond." It is here shown that the kimberlite in which the diamonds of South Africa are found is not the parent rock or metamorphosed peridotite, but a rock secondarily derived from the debris of other rocks, among which is an eclogite, and this eclogite is shown by Dr. Bonney to be the parent rock of the diamond.

—— (*Pro. Roy. Soc.*, lxv., p. 223); (*Can. Rec. Sci.*, viii., p. 95).

—— (*Chem. News*, lxxx., pp. 3, 13); (*Nature*, lx., p. 620).

"The Parent Rock of the Diamond in South Africa."

—— (*Geol. Mag.*, vi., p. 1).

"Fulgurites from Tupungate and the Summit of Aconcagua."

—— (*Nature*, lx., p. 152).

"The Geology of Mount Blanc." A review of the work of Duparc and Morazec, which see.

—— and **Raisin, C. A.** (*Q. J. Geol. Soc.*, lv., p. 276).

"Varieties of Serpentine and Associated Rocks in Anglesey."

Brauns, Reinhard (*Jahrb. f. Min.*, 1899, i., p. 79); (*Ber. Ges. Giessen*, 1897–99, p. 84).

"A New Contact Rocks from the Kaiserstuhl." Associated with Hauynophyse, consisting of hauynite, melonite and augite with apatite and mica.

Brun, Albert (*Arc. Sci. Phy. Nat.*, vii., p. 61).

"Peridotite and Gabbro of the Matterhorn."

Burian, Josef (*Casopis p. prumysl chemicky*, 1899, ix, 225).

"Diabase from Kuchelbad, near Prague, Bohemia." A coarse grained mixture of plagioclase, augite and chlorite, with irregular amounts of magnetite, titanite, etc. The analysis gives: SiO_2, 46.24; TiO_2, 1.38; FeO, 7.53; Fe_2O_3, 8.17; Al_2O_3, 16.67; MnO, .0; CaO, 7.66; MgO, 3.25; K_2O, 1.48; Na_2O, 3.55; P_2O_5, 1.26; CO_2, 0.29; moisture, 1.71. [See *Chem.-Ztg.*, 1899, No. 62 (Rep., p. 226).]

Busz, R. (*Jarb. Min. Beilage*, xiii, p. 90).

"Communication on the Granite of Dartmoor Forest, in Devonshire, England, and their Contact Rocks."

Butureanu, V. C. (*Bul. Soc. Bucarest*, viii., p. 91).

"Petrographical and Chemical Studies of the Eruptive Rocks of the District of Suceava."

Cathrein, A. (*Zeit. Deut. Geol.*, l., p. 257).

"Dioritic Dikes and Rock Masses of Pusterthal."

Chelius, C. (*Nat. Geol. Darm.*, iv., pt. 19, p. 15).

"Remarks on the Survey Sheet of Lindenfels."

Clements, J. M. (*Am. Jour. Sci.*, vii., p. 81).

"Contribution to the Study of Contact Metamorphism." The production of various rocks by the action of intrusive rocks upon slate sediments in the upper peninsula of Michigan are described.

Clough, C. T. and **Harker, Alfred** (*Trans. Edinb. Geol. Soc.*, vii. p. 381).

"On a Coarsely Spherulitic ("Variolitic") Basalt in Skye."

Clunies, W. J. (*Rept. Aust. Assoc.*, vii., p. 384).

"Notes on Some New South Wales Rocks." Notes the Occurrence of dolomite and chlorite from the Bathurst district.

Coleman, A. P. (*Jour. Geol.*, vii., p. 437).
"Corundiferous Nepheline-Syenite from Eastern Ontario."
—— (*Jour. Geol.*, vii., p. 431).
"A New Analcite Rock from Lake Superior." This new rock, heronite, occurs as a dike in the Huronian rocks of Heron Bay, Canada. It is composed of analcite, 47.00; orthoclase, 28.24; labradorite, 13.00; aegyrite, 4.04; limonite, 3.59; calcite, 1.96 per centum. The rock might be considered an analcite-syenite were it not that the structure is sphericlitic groups of orthoclase imbedded in analcite with radiating aegyrite and labradorite.
—— (*Bul. Geol. Soc. Am.*, ix., p. 223).
"Clastic Huronian Rocks of Western Ontario."

Cushing, H. P. (*Bul. Geol. Soc. Am.*, x., p. 177).
"Augite-Syenite Gneiss, near Loom Lake, New York."

D'Achiardi, Giovanni (*Att. Soc. Tosc. Memeorie*, xvi., p. 165).
"Two Examples of Metamorphism by Contact—Urals and Elba."

Derby, O. A. (*Am. Jour. Sci.*, vii., p. 343).
"Association of Argillaceous Rocks with Quartz Veins in the Region of Diamantina, Brazil."

De Windt, Jean (*Mem. Cour. Acad. Belg.*, lvi., art. 4).
"On the Lithologic Relations Between the Rocks Considered as Cambrian and the Massifs of Rocroi Du Brabant and Stavelot."

Diersche, Max (*Jh. K. K. Geol. Reich.*, xlviii., p. 231).
"Contributions to the Knowledge of the Rocks and the Graphite Occurrences of Ceylon." The rocks described are: 1. Normal Granulite; 2. Pyroxengranulite; 3. Gneiss; 4. Granite; 5. Limestone; 6. Quartzite; 7. Sea-sand. In the second half of the article the graphite of Ragedara and its inclusions are noted.

Diller, J. S. (*Am. Jour. Sci.*, vii., p. 337).
"Origin of Paleotrochis." The paleotrochis is shown to occur in volcanic rocks, and in no way to be of organic origin.

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—— **and Ritter, E.** (*Compt. rend.*, cxxviii., p. 1356).
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VI.

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VII.

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Z. Naturer—Zeitschrift für Naturwissenschaften, Leipzig, Germany.

Zeit. Anal. Chem.—Zeitichrift fur Analitische Chemie, Wiesbaden, Germany.

Zeit. Anorg. Chem.—Zeitschrift für Anorganische Chemie, Hamberg, Germany.

Zeit. Deut. Geol.—Zeitschrift der Deutschen Geologischen Gesellschaft, Berlin, Germany.

Zeit. Kryst. Min.—Zeitschrift für Krystallographie und Mineralogie, Leipzig, Germany.

Zeit. Phy. Chem.—Zeitschrift für Physikalishe Chemie, Stächiometrie und Verwandtschaftslchre, Riga and Leipzig, Germany.

Zeit. f. Prakt. Geol.—Zeitschrift für praktische Geologie, Berlin, Germany.

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